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Army Transformation: A View from the U.S. Army War College

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ARMY TRANSFORMATION:
A VIEW FROM THE U.S. ARMY WAR COLLEGE

Edited by
Williamson Murray

July 2001

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FOREWORD

The famous British general, the Duke of Wellington, wrote that, "The country must have a large and efficient army, one capable of meeting the enemy abroad, or they must expect to meet him at home." These words written almost 200 years ago are no less true for our own country today. Our security interests and the need for landpower to secure them span the globe. The U.S. Army is now in the process of transforming itself to meet those needs in the future. The following essays are representative of current thinking at the U.S. Army War College by students considering the nature and direction of this transformation. Dr. Williamson Murray's introduction sets the historical context for military transformation, comparing the modern European example with recent U.S. efforts in military innovation. The remaining essays address four themes: the nature of the transformed Army, building irreversible momentum for transformation, improving strategic responsiveness, and how to achieve transformation in key areas.

Officers who participated in the Advanced Strategic Art Program (ASAP) during their year at the U.S. Army War College wrote these essays. The ASAP is a unique program that offers selected students a rigorous course of instruction in theater strategy. Solidly based in theory, doctrine, and history, the program provides these students a rich professional experience that includes staff rides, exercises, and the best expertise available. The program is designed to provide the joint community with the best strategists and planners in the world. In the case of these officers and their work, they have already begun to make a difference. They and their fellow graduates of the U.S. Army War College will continue to serve the Army and the nation for many years to come.

ROBERT R. IVANY
Major General, U.S. Army
Commandant

CHAPTER 1

INTRODUCTION

Williamson Murray

As the United States enters a new century, its army confronts the difficult problems associated with transformation in an uncertain world. Moreover, the strategic environment makes it entirely unclear where, or when, or for what strategic purposes U.S. ground forces will find themselves committed to battle in coming decades.¹ Yet, both the strategic environment as well as the harsh lessons of the past have a direct bearing on why the Army has begun the processes of transformation.²

The study of the past cannot lead to prediction as to the nature and conduct of war in the 21st century, but it does underline that sometime in the future the Army will find itself committed to a major conflict. Moreover, the nature of the current strategic environment suggests the parameters within which the future Army will have to operate. Finally, history is crucial to understanding what factors and approaches might best prepare the Army to meet future threats.

This introduction, then, represents an attempt to set out for the reader the issues—past, present, and future—that could best frame the Army's approach to transformation and innovation. The past is crucial to understanding why ground forces will always be essential to achieving the political aims for which wars are fought. Moreover, the current strategic environment indicates that U.S. military forces are going to have to readdress the two old questions of time and distance. The United States cannot escape the geographic realities that two great oceans separate it from much of the rest of the world by two great continents.³

Equally important, the past suggests how best to think about the complex problems of transformation in a period of

rapid technological change.⁴ What are the most important attributes of an innovative military institution?⁵ What impediments have existed in the past to successful innovation and transformation? What kind of military culture is most conducive to transformation? What role has leadership played in transforming military institutions in the past? And how best can a military organization develop and maintain the momentum required for substantive, long-term change in its basic approach to war? There are no easy answers to these questions, but they lie at the heart of how the Army must think about transformation in the first decades of this new century.

The Strategic Environment: Imperative and Difficulties.

At the start of the 21st century, the Army confronts the reality that the ending of the Cold War a decade ago so altered the strategic landscape that virtually all of the strategic verities of a 50-year period disappeared.⁶ The adjustment to that reality is still going on. In a matter of months, the collapse of the Soviet Union in 1991 had removed the great power threat to the security of the United States. The presence of that threat had provided the American military, and especially the Army, with a stable strategic and operational framework for thinking about future war. With the exception of the 7-year period during the Vietnam War, from 1950 on, the Army focused almost single-mindedly on how best to deter and, if deterrence failed, fight a war in Central Europe.

However since 1991, at the upper end of the conflict spectrum the Army has only confronted regional challengers—and not particularly impressive ones at that—and at the lower end of the spectrum, a number of peacekeeping and peace enforcement missions. None of these have fit within the cultural and operational framework developed to fight World War II and to deter World War III. Exacerbating the Army's difficulties in

adjusting to its new role has been dealing with the difficult problems associated with the major downsizing of its forces.

Innumerable commentators have noted the impact of that change in threat as well as that of the downsizing on the Army's psyche. But an additional factor of great importance is now in play. Since the end of the Cold War, U.S. forces have been coming home from their Cold War positions in Europe and the Far East, either to be retired to the reserves or relocated to new bases in North America. It is entirely conceivable that by the end of the next decade, the United States will have virtually no troops stationed permanently on the far side of either the Atlantic or the Pacific.

The return of those forces to North America has obviously led to the closing of many American bases on foreign soil as well. The continuation of that process will have important implications for the projection and sustainability of U.S. military forces throughout the world in the future, especially where the United States must protect its interests against significant challenges. It is worth noting, for example, that the world's crucial energy resources lie in the Middle East—not just on the far side of the Pacific or Atlantic, but *on the other side of the world*.

As U.S. military planners discovered in both world wars, there is a negative side to the protection the Pacific and Atlantic Oceans afford their country. U.S. military forces and their equipment must now move across oceanic distances *and then be supported* in any major conflict. Those critics of the performance of the U.S. military in World War II, who so vociferously criticize the supposed American overemphasis on logistics in comparison to the Wehrmacht, largely ignore the realities of geography.⁷ In effect, the return of the American military to North America has resurrected the knotty problem of how to get military forces to the next war and then support them in the fight over sustained periods of time.⁸ As usual, in life there are no simple "silver-bullet" solutions on the horizon. As the

British General Sir James Wolfe said at the opening of his campaign against Quebec in 1759, “war is an option of difficulties.”⁹

There is a second problem that has only recently begun to emerge, ironically a decade after the end of the Cold War. It has to do with the funding of the U.S. military at continued levels—high at least in comparison with American peacetime traditions or the levels currently maintained by other nations. Certainly, the traditional American approach after the nation’s great wars has been to begin a massive downsizing immediately upon conclusion of war and to continue that process for a sustained period. In the period between the world wars, the decline in military budgets continued into the late 1930s, well beyond what good sense should have suggested was reasonable.¹⁰ Admittedly, the Great Depression had placed considerable and economic impediments in the way of any sensible program of preparedness for much of the 1930s. Nevertheless, the growing dangers in the Pacific and Europe were all too obvious by the mid-1930s. However, those dangers had virtually no impact on the American polity until war broke out in Europe in September 1939.¹¹

Thus, for the foreseeable future, the prospects for a substantial increase in defense spending without the appearance of a major power threat to the actual security of the United States is highly unlikely. It is all very well to *hope* that the nation’s political leadership might be wise enough to devote 4 percent of the gross national product to defense, as the Commandant of the Marine Corps has recently suggested, but that possibility is simply not in the cards. Instead, it is far more likely the military will see a slow, steady erosion of defense budgets over coming decades. Two factors will work to drive those budgets down. The first is that, even were the economy to grow at reasonable rates, pressures on social security will steadily increase, as the “baby boomers” begin to retire.¹² The aging of the baby boomers will also result in substantial increases in health care costs over coming decades. Finally, the

present administration's tax cuts, even if mitigated by Congress, make it unlikely there will be sufficient funding available for major increases in defense spending.¹³

A third factor that could place pressure on defense budgets may well come from the success U.S. military power has enjoyed in keeping the peace around the world. The death of the World War II generation, with its collective memory of the cost of unpreparedness, will further exacerbate the attitudes of Americans that defense spending represents a luxury they can do without. Moreover, the more successful that U.S. military forces are in keeping the peace over coming decades, the more difficult it will be to maintain the political consensus in the United States necessary to keep defense budgets at present levels. That possibility suggests the pressures on a defense budget that must not only keep the peace, but make long-term investments in research and development and procurement of new systems.

Most probably, there will not be a cataclysmic downward plunge, but rather the death of a thousand knives. In such an environment, military leaders, including those in the Army, will have to become increasingly sophisticated in making their arguments to Congress. Any strategy for transformation must take into account the difficulties involved in persuading the American people to support defense spending during a period when it is difficult to enunciate clear and direct threats to the territory of the United States.

The Problem of Military Transformation in Peacetime.

Perhaps the most daunting challenge confronting the Army in its efforts to transform itself has to do with the fundamental nature of war and the military profession that must prepare for combat.¹⁴ Simply put, one cannot replicate in peacetime the conditions of combat, where military organizations attempt to destroy each other under

terrifying conditions. As Michael Howard has suggested about the profession of arms (officership and leadership):

First, his [the officer's] profession is almost unique in that he may only have to exercise it once in a lifetime, if indeed that often. It is as if a surgeon had to practice throughout his life on dummies for one real operation . . . Secondly the complex problem of running a [military service] at all is liable to occupy his mind and skill so completely that it is easy to forget what it is being run *for*.¹⁵

Thus, the full impact and implications of technological, doctrinal, and tactical changes can never be clear in peacetime until war actually begins.

Military institutions may understand in peace that substantial technological change is taking place. Nevertheless, a number of complex questions confront them. The first is to estimate and then to attempt to understand how things might work out on the battlefield. Will new weapons systems favor the offensive or the defensive? How can they best integrate new technologies into tactical concepts? Or do the concepts themselves have to change? And what are the training and doctrinal implications of such changes?

In the above sense, the pre-World War I German military were able to grasp most of the implications of the vast improvement in technology and weapons systems since the Franco-Prussian War of 1870-71. As one historian has suggested: "The [Germans] had not only recognized the problem, but had also hammered out the fundamental principles that defined modern warfare, at least from a tactical and operational standpoint."¹⁶ The difficulty for the Germans (as well as the other European armies) was the fact that it took 3 years of bloody combat to work out the complex details during World War I.¹⁷

Unfortunately, historians have tended to muddle our understanding of the processes of successful or unsuccessful military transformation.¹⁸ For the most part, they claim

that military organizations study what happened in the last war, and that is why they do badly in the next. Nothing could be farther from the truth. Instead, most military organizations fail to study past military experience, even of the most recent variety—including their own. Thus, they tend to build up a picture of future war that fits their own preconceptions and assumptions. If they use the past at all, it is to validate those assumptions. A comparison of the German army in the interwar period with the French and British armies underlines this point. General Hans von Seeckt, the German Army's commander-in-chief from 1920 to 1926, established no less than 57 different committees to examine what had actually happened on the battlefields of 1918. He explicitly tasked those committees that they were to produce short, concise studies on the newly gained experiences of the war and consider the following points: a) What new situations arose in the war that had not been considered before the war? b) How effective were our prewar views in dealing with the above situations? c) What new guidelines have been developed from the use of new weaponry in the war? and d) Which new problems put forward by the war have not yet found a solution?¹⁹

In comparison, the British Army failed to establish a committee to study the lessons of the last war until 1932. Then when its critical report came in, Chief of the Imperial General Staff Field Marshal Sir Archibald Montgomery-Massingberd deep-sixed the study and replaced it with one that presented a far more favorable (and unrealistic) view of how the British Army had performed in World War I.²⁰

Moreover, the business of soldiering in peacetime itself requires immense time and energy to train, organize, educate, and prepare units for the day-to-day tasks that military forces must perform in remaining military institutions. To make matters even more difficult, the lessons of even recent combat experience are never clear, while military institutions must struggle with new technologies that become available. Finally, the length of

interwar periods is clear only to military historians, who can pick over the wreckage *after* the war is over in their efforts of Monday morning quarterbacking.

It is the indeterminate length of interwar periods that makes the task of preparing for war doubly difficult. Recent scholarship, to a great extent supported by the Office of Net Assessment in the Pentagon, has focused on the 1920s and 1930s for an examination of military innovation and transformation during peacetime.²¹ There is indeed much to be learned from that period, as the concluding section of this chapter will suggest.

But there are several aspects to the history of the 1920s and 1930s that may well distort the understanding of the complex issues involved in transformation. Most officers involved in innovative efforts in that interwar period had experienced combat in World War I. Thus, they could draw on experiences directly relevant to the problems they were confronting. Moreover, most of the major transformations that exploded on the battlefields of the 1940s were already emerging by 1918. The one exception, airborne operations, suggests how similar the framework of 1940 was to that of 1918; strategic bombing, carrier operations, submarine warfare over extended distances, exploitation, combined-arms mechanized operations, and close air support all were emergent concepts at the end of World War I.

At present, there appears to be little chance U.S. military forces will find themselves engaged in a major war. Instead, it is possible that the Army may not find its units engaged in a major conflict for a much longer period of time, as was the case with the Royal Navy between 1815 and 1914.²² The result of a century without a serious challenge to the Royal Navy's maritime superiority was the creation of a service culture that increasingly emphasized the polishing of brass and looking good over the serious business of intellectually and tactically preparing for war. The problems raised by an extended period of peace can only be exacerbated, if that period occurs during a time of rapid

technological change. In that case, even serious innovation and transformation can have its limitations. In the 40-year period between the ending of the Franco-Prussian War and the outbreak of World War I, the Prusso-German Army seriously prepared for the next war.

It was not, however, merely the imperatives of technological change that caused the problem. Rather, it was the difficulty of understanding the full ramifications of technological changes on doctrine and tactical preparations. As one commentator has noted:

Technological determinism also oversimplifies the difficulty of integrating new technology into existing structures, a process that usually entails a considerable amount of friction and any number of unintended consequences. On the contrary, the technological signposts that appeared during the wars fought between 1870 and 1914 pointed in a number of confusing and often contradictory directions. The nonlinear unfolding of Western society's technological transformation during this period would, in fact, consistently surprise conservative and visionary alike. Technology was dynamic and unstable at the turn of the century, with breakthroughs occurring concurrently and unpredictably in any number of fields, some of which had the potential to upset the balance of power within a very short period.²³

In a period that also confronts a number of discontinuous changes in a number of fields, it would seem likely that today's Army will find no easier path to new capabilities and doctrine. The problem of integrating new technologies into doctrine and structures that can realistically address the wars of the 21st century will remain as difficult as they were in the last century. But as the current Army leadership has grasped, the Army has no choice but to transform. While the past may not provide answers to problems already confronting transformation, it does suggest avenues and questions one might ask as one embarks on the journey. Above all, the past indicates there are no simple or easy solutions to the intractable problems military organizations confront in innovation and transformation.

The Past as a Guide.

As uncertain a guide as the past may be, it at least suggests the patterns and cultural aspects that have aided earlier military organizations to innovate in transforming their tactical and operational approaches to war. It also suggests the factors that have been favorable to innovation and which, most probably, will contribute to successful transformation and innovation in the future. It can also underline many of the negative factors impacting on transformation. But as in all things dealing with human institutions, the processes of past transformations have been uncertain, ambiguous, and difficult.

The most obvious lesson from history is that technology, while an important contributor, is rarely, if ever, the most important component of change. In a number of historical cases, the military organizations that most successfully transformed themselves possessed inferior technology to those whom they outperformed. The most obvious cases in World War II had to do with the Wehrmacht, which possessed inferior armored fighting vehicles to those possessed by the French and particularly the Soviets during the 1940 and 1941 campaigns.²⁴ This is, of course, not to argue that technology does not play an important role in transformation, but rather that its most important function is as an enabler. And as an enabler, it opens up possibilities that then depend on the culture, doctrine, and organization of those military forces that are involved in serious innovation.²⁵

The context within which transformation takes place is also important. If transformation efforts address a strategic challenge that threatens the survival of the state, it is likely to have the greatest impact.²⁶ In this sense, the creation of Fighter Command and a system of air defense capable of defending the British Isles from air attack between 1937 and 1939 represents one of the most important revolutions in military affairs (RMAs) that occurred in the first half of the 20th century. Moreover, it is the one case in the 1920s

and 1930s where radical change took place over a very short period of time.²⁷ By building a *system of air defense* that integrated the new technologies of radar and the stressed-wing, mono-plane fighter, Air Marshal Sir Hugh Dowding entirely altered the balance in the coming Battle of Britain.²⁸

But most of the RMAs took longer to create. This reflected not only the technological, tactical, and operational difficulties involved, but the context as well. Most military leaders involved in the processes of transforming their forces confronted the prospect of conflict well in the future. And the context of time proved important in pushing the parameters of technological development as well as developing more complete concepts of employment. Thus, most of the other RMAs occurring through this period involved evolutionary, rather than revolutionary processes.

The German development of mechanized, combined-arms tactics between the wars represented a process that began in the early 1920s and lasted well into 1941.²⁹ Certainly, few of the Germans who participated in the drive through the Ardennes and across the Meuse thought that they were realizing an RMA.³⁰ Since the senior officers had been involved in a process of transformation that had begun with Seeckt, they would have seen little that appeared revolutionary in their victory, except perhaps the ideological factor.

The pattern of most past RMAs would thus suggest a number of enabling factors. First would be the sustainment of a long-term vision. In some cases, this resulted in the positioning of key individuals in positions of responsibility for sustained periods of time. Admiral William Moffet remained the head of BuAer [Bureau of Aeronautics] and in charge of naval aviation for three terms despite a number of attempts to move him on to other positions during the late 1920s and early 1930s. In effect, as a skilled "bureaucratic entrepreneur," Moffet manipulated not only the Navy's internal system, but to a considerable extent the external

environment as well.³¹ Moreover, Moffet got the job as the head of BuAer through his political connections, and he kept that job through those connections. While he placed his imprint solidly on the aviation community, he was somewhat less successful with the rest of the Navy. In the end, it did not matter because his connections with Congress protected him and protected his offspring, even after his death in the crash of the rigid airship *Akron*.

Even more important in transformation in the 1920s and 1930s would seem to be the culture of the military organizations themselves that were engaged in transformation and innovation. Here, General Hans von Seeckt played the crucial role on setting the German Army on the right track. By setting in motion a major effort to study the lessons of World War I, Seeckt ensured that the German Army would be the only military organization in Europe to understand fully the combined arms revolution that had occurred in 1918.³² This was not an easy task because the real lessons of the war would not be clear to most historians in the English-speaking world until the early 1980s.³³

At the same time that Seeckt was setting in motion a detailed examination of what had happened in the war, he was also carrying out fundamental changes in the *Reichsheer's* culture.³⁴ Confronted by the demand of the victorious Allied powers that the German Army drastically reduce its officer corps in the aftermath of the war, Seeckt chose to place the army entirely in the hands of the General Staff, while at the same time he purged the great majority of officers with reputations as *Frontsoldaten* as well as aristocrats from the officer corps, unless they were suitable material for the General Staff.

The result was that within a short period, the *Reichsheer's* culture reflected the traditional values of the Great General Staff's emphasis on rigorous study and serious debate—a culture that emphasized military history and intellectual preparation for war. This was so much so

that Erwin Rommel, the pre-eminent German “muddy boots” soldier, not only read extensively in military history, but even wrote one of the classics in the literature of military history.³⁵ The fact that in 1932 three of the *Reichsheer's* senior generals wrote *Die Truppenführung*, the most impressive doctrinal manual of the interwar period, suggests the extent of the intellectual bent of the German officer corps.³⁶ One of those generals, Werner von Fritsch, assumed command of the army in 1933, while another, Ludwig Beck, became the Chief of the General Staff at the same time.

The German military culture stands in stark contrast to the French efforts at transformation in the interwar period. What is most remarkable about the French military culture was the absence of serious debate about how the French Army should prepare for the coming test against the Germans, a test which virtually everyone in the army knew was coming. A combination of intellectual arrogance and indecision at the top led the French to miss much of the potential offered by their technological developments. The army's leader in the last years of peace, General Maurice Gamelin, refused to stomach dissenting opinions. In 1935 he established the high command as the sole arbiter of doctrine. From that point on, all lectures, articles, and books by serving officers had to receive the approval of the high command before publication. As French General André Beufre noted in his postwar memoirs: “Everyone got the message and a profound silence reigned until the awakening of 1940.”³⁷ Equally important in the French failure was the dilatory approach taken to the issue of creating mechanized formations. A series of meetings at the highest levels beginning in 1937 finally resulted in the creation of two weak armored divisions in early 1939, with the tables of organization for those divisions still undetermined at the end of 1938.³⁸

Yet the most impressive culture of innovation and transformation existed within the U.S. military. When one considers the shortage of resources, the lack of funding, and

the general disdain for most things military on the part of most Americans, this was a particularly impressive accomplishment by the officer corps of the various services. The path that the U.S. services followed underlines how seriously they took the intellectual aspects of the profession of arms.

To a certain extent, given the funding levels and the resources available, they had little choice. But the other side of the coin is that the military leaders of the services clearly believed that they were members of a profession—the profession of arms.³⁹ The role that professional military education played in the American military system throughout the interwar period is suggested by the amount of time a profession required serious study, as well as work in the real world, and the seriousness with which the services took their profession.⁴⁰

Professional military education in the United States emphasized not only the education of officers, but was, in significant instances, a direct player in the transformation process itself. Justifiably worried about its future, the Marine Corps quite literally shut down the Marine Corps Schools at Quantico in 1931 to undertake the writing of a basic manual for amphibious operations. The resulting product, “The Tentative Manual for Landing Operations,” became the foundation document on amphibious operations for all the services and provided the intellectual underpinnings for the amphibious assaults that were so important in both Europe and the Pacific during World War II. Quantico and the Naval War College then provided fertile ground for debate about the results of a series of exercises and experiments carried out in the late 1930s.⁴¹

Similarly, the Naval War College played a crucial role in the development of carrier capabilities *before* the Navy possessed a single carrier. Under the leadership of Admiral William Sims, the head of U.S. naval forces in the United Kingdom during World War I who had returned by choice to become president of the war college, the faculty and

students carried out a number of war games that involved carriers as well as the battle line. What they discovered was that pulses of air power rather than streams of aircraft would add substantially to the lethality of carrier-borne naval power.⁴² But the Naval War College was to make a major contribution not just in carrier aviation in the early 1920s. In 1921 two officers at the college developed the concept of the mobile advanced base, which provided the concept of the forward operating logistic base, the basis of the devastating drive across the central Pacific in 1944.⁴³

Throughout much of the 1980s, the U.S. Army's ground forces received a terrible press for their inferior performance against the Wehrmacht in Italy and Northern France from 1943 to 1945.⁴⁴ Subsequent historical research has substantially revised that view. In fact, much like the German Army after World War I, the U.S. Army undertook a major study of the lessons of the last war, and those lessons were incorporated into the Field Service Regulations of 1923.⁴⁵ At least on the tactical level, the U.S. Army built a framework for training and preparation that served most American ground combat units well in World War II. It had less success on the operational level—partially because the U.S. Army Command and General Staff College at Leavenworth never wrote a field manual on the operational level, but rather in 1930 largely appropriated and translated from the French their manual for “grand tactics.”⁴⁶

But a straight tactical comparison of the U.S. Army with the Wehrmacht misses a number of critical points, the most important of which is that the rebuilding of American ground forces only began in summer 1940 after the catastrophe in France. Thus, the Army had barely 2 years to get ready for war before commitment to combat in New Guinea and Tunisia. The Germans on the other hand had 6 1/2 years before the Polish campaign and then another 6 months to get ready for their offensive against Western Europe. The comparison of the U.S. military forces with the Wehrmacht's military excellence also misses the

considerable weaknesses in the "German way of war." If the Germans displayed extraordinary capabilities on the tactical battlefield, their definition of the operational level of war left little room for either logistics or intelligence.⁴⁷ And in both those areas their weaknesses contributed enormously to their catastrophic defeat.⁴⁸

The British Army had approximately the same length of time to get ready for the war, but its performance, with the exception of Field Marshal William Slim's Fourteenth Army, improved little over the course of the war. This was in sharp contrast to what occurred across the board in the U.S. Army. Like the other American services during the interwar period, the Army took the intellectual preparation for war seriously. While the curriculum at the Command and General Staff College left much to be desired, the various schools, particularly the Infantry School under George C. Marshall, encouraged the serious study of war. Moreover, Marshall identified those officers with the drive, professionalism, and intelligence to lead the Army in the coming war. In fact, Marshall's selection criteria may have been tougher than any entrance examination to the *Kriegsakademie*.⁴⁹

Marshall's attitude towards professional military education is best summed up by the choice of faculty at the U.S. Army War College during the 2 years of desperate preparation that the Army underwent from 1939 to Pearl Harbor. Of seven officers on the faculty for the 1939-1940 academic year, two (J. Lawton Collins and W. H. Simpson) would go on to very senior commands in World War II. The following year, Alexander Patch, also an Army commander in World War II, would find himself assigned to the faculty.

The Army's emphasis on the faculty of its senior school was nothing exceptional in the culture of all the American services during this period. The future Admiral Raymond Spruance would serve not one, but two, tours on the faculty of the Naval War College, along with other luminaries such as Richmond Kelley Turner, the main driver on the Navy

side behind the great amphibious drive across the central Pacific. The Air Corps tactical school at Montgomery and the Marine Schools at Quantico would likewise see a number of the future leaders of those services serving on the faculties of those institutions. The point here is that the culture of serious professionalism in the U.S. services prized education and serious study, and those attitudes paid enormous dividends in the imaginative and competent projection of American military power across two great oceans. Like Germany, the United States fought a two-front war. Unlike the Germans, the United States won both wars. The transformation of the U.S. military beginning in 1940 reflected the dedicated professionalism of service cultures that took the profession of arms very seriously indeed.

Conclusion.

The Army will undergo substantial transformation over coming decades whether it wants to or not. No living organization, and the Army is a living organization, can survive without change. And the U.S. Army has a long history of significant transformations—from the minuscule Army of 1860 to the massive Union Army of 1865; from the Indian Army of 1898 to the European Army of 1918; from the depression Army of 1939 to the massive forces that destroyed the Third Reich and Imperial Japan. Of all the transformations the Army has undergone, perhaps none has been so remarkable as the transformation of the defeated, broken Army of 1973 to the vibrant, intellectually alive Army of the mid- to late-1980s. And many officers serving today were part of that remarkable transformation that resulted in the devastating victory of U.S. ground forces over the Iraqi Army in Operation DESERT STORM.

Thus, it would seem appropriate for those interested in transformation of the Army today to examine how their predecessors drove the processes of innovation and change so successfully barely 2 decades ago. A key element in the transformation processes in the late 1970s was the

communication of a vision throughout the Army. That process was at times inadvertent. The publication of *Field Manual 100-5 (FM 100-5), "Operations,"* by the Training and Doctrine Command (TRADOC), at the time commanded by General William Depuy, with its emphasis on "the active defense," resulted in a storm of debate throughout the Army. The dust from the ensuing arguments did not finally begin to settle until the mid-1980s with the publication of *FM 100-5* and the general acceptance of the tenants of maneuver warfare and AirLand battle. But the debates themselves drove the entire processes of transformation and resulted in an educated and involved officer corps.

The intellectual and training journey that the Army underwent over the course of a decade from the mid-1970s to the mid-1980s created an entirely new Army. It possessed innovative and imaginative concepts honed by debate and equally important by experiments and exercises that ensured the relevance of doctrine and concepts. A number of officers who would eventually emerge among the Army's senior leadership in the early 1990s participated and contributed to the debate. While senior generals of the late 1970s may not have been enthralled by the criticism their doctrinal concepts received, their outspoken juniors do not seem to have suffered. It was that openness to argument and the refinement of ideas that makes the innovations of this period so interesting.

The current lack of debate within the Army is indeed a worrisome trend. As one perceptive commentator has noted: "That too little of this debate and discussion still goes on is, perhaps, indicative of the need to continue pressing for further development of the operational art concept in an armed forces once more caught up in a perceived technology-based revolution in military affairs."⁵⁰ If the Army is to realize the full benefits from the massive technological changes that are currently taking place, then it clearly needs to look back at its recent past where it achieved such significant and important changes and use a

close study of that past in thinking through the problems of transformation that currently confront it. Change is always difficult, but it makes little sense to magnify the difficulties by ignoring such a salient, recent period of its own history.

The U.S. Army confronts enormous challenges in coming decades. It confronts uncertainties and ambiguities as to where, when, and for what it will fight. Adding to its difficulties is the fact that the world is going through a technological revolution with immense implications for the conduct of war. But sometime in the future the Army will confront an enemy who has prepared his forces to challenge U.S. forces. That is what General Erik Shinseki's effort to transform the Army is all about. The chapters in this volume represent the efforts of some of the best students at today's U.S. Army War College to come to grips with the problems of Army transformation. They do not present an easy set of solutions; nor do they shy away from controversy. Above all, they aim at encouraging serious debate and discussion throughout the Army as to the best paths towards transformation. That informed debate must form the core of current efforts to move into the future.

ENDNOTES - CHAPTER 1

1. And committed to battle they will be. See Lieutenant General Paul Van Riper, USMC, and Major General Robert Scales, USA, "Preparing for War in the 21st Century," *Strategic Review*, Summer 1997.

2. As Thucydides suggested in his monumental history of the Peloponnesian War: "It will be enough for me, however, if these words of mine are judged useful by those who want to understand clearly the events which happened in the past and which (human nature being what it is) will, at some time or other and in much the same ways, be repeated in the future." Thucydides, *History of the Peloponnesian War*, Rex Warner, trans., New York: Penguin Books, 1983.

3. See Williamson Murray, "America, Geography, and the 21st Century: The Limits of Power," scheduled for publication in *The Naval War College Review*, Fall 2001.

4. See Williamson Murray, "The Emerging Strategic Environment: An Historians Thoughts," *Strategic Review*, Winter 1999.

5. For a discussion of what the 1920s and 1930s suggest about innovation in the future, see Williamson Murray and Barry D. Watts, "Military Innovation in Peacetime," in *Military Innovation in the Interwar Period*, Williamson Murray and Allan R. Millett, eds., Cambridge: Cambridge University Press, 1996.

6. The Cold War was in many ways simply a continuation of World War II's effort by the United States and its Allies to prevent a single, hostile power from dominating the Eurasian land mass. In the first case, the attainment of the goals of U.S. strategy required a massive commitment of U.S. military forces to operations against the Wehrmacht and the Imperial Japanese Army and Navy. The Cold War again saw the massive commitment of U.S. military forces to Europe and the Far East—this time in the service of deterrence.

7. Along these lines, see particularly Martin Van Creveld, *Fighting Power, German and U.S. Army Performance, 1939-1945*, Westport, CT: Greenwood, 1982.

8. There is considerable talk within the beltway about the next RMA with special emphasis on information war. In fact, given logistic difficulties the United States confronts in projecting military power from its shores, the most important RMA should probably come in logistics. Unfortunately, the Pentagon has yet to focus its research and development resources on this area.

9. For a brilliant recreation of that campaign in North America that occasioned Wolfe's remark, see Fred Anderson, *The Crucible of War, The Seven Year's War and the Fate of Empire in British North America, 1754-1766*, New York: Alfred A. Knopf, 2000.

10. Serious rearmament for the Army's ground forces did not actually begin until after the fall of France, perilously close to the actual involvement of those ground forces in combat on the battlefields of North Africa and New Guinea in the summer and fall 1942.

11. And even then it is worth remembering that the Congress of the United States renewed the draft by a single vote in the House of Representatives in July 1941—at a time when the Pacific trembled on the brink of conflict and when German mechanized spearheads had already reached Smolensk—two thirds of the way to Moscow.

12. And in view of the economic troubles that have appeared at the beginning of January 2001, the assumption of continued economic growth may not be realistic.

13. Both the president and congress have shown considerable interest in funding major increases in the federal budget for teachers.

14. On the possibilities involved in war in the future, see Barry D. Watts, *Friction in Future War*, Washington, DC: National Defense University Press, 1996.

15. Michael Howard, "The Uses and Abuses of Military History," *Journal of the Royal United Services Institute*, February 1962.

16. Antulio J. Echevarria II, *After Clausewitz, German Military Thinkers Before the Great War*, Lawrence: University of Kansas Press, 2001.

17. For a discussion of these issues, see Williamson Murray and MacGregor Knox, "Thinking About Revolutions in Warfare," and Jonathan B. A. Bailey, "The First World War and the Birth of Modern Warfare," in *The Dynamics of Military Revolution, 1300-2050*, MacGregor Knox and Williamson Murray, eds., Cambridge: Cambridge University Press, 2001.

18. A prime example of such distortions is the exaggerated credit that many historians have given to General Heinz Guderian for the creation of the Blitzkrieg. In fact, Guderian was a comparative latecomer to the development of combined arms mechanized warfare by the Germans during the interwar period. See Williamson Murray, "Armored Warfare," in *Military Innovation in the Interwar Period*, chap. 1.

19. James S. Corum, *The Roots of Blitzkrieg, Hans von Seeckt and German Military Reform*, Lawrence: University of Kansas Press, 1992, p. 37.

20. Harold R. Winton, *To Change an Army, General Sir John Burnett-Stuart and British Armored Doctrine, 1927-1938*, Lawrence: University of Kansas Press, 1988, pp. 130-131.

21. Among such studies, see Allan R. Millett and Williamson Murray, *Military Effectiveness*, vol. 2, *The Interwar Period*, London: Allen and Unwin, 1988; Murray and Millett, *Military Innovation in the Interwar Period*; Thomas C. Hone, Norman Friedman, and Mark D. Mandeles, *American and British Aircraft Carrier Development, 1919-1941*, Annapolis, MD: Naval Institute Press, 2000; and Stephen

Peter Rosen, *Winning the Next War, Innovation and the Modern Military*, Ithaca, NY: Cornell University Press, 1991.

22. For the debilitating impact of that prolonged period of peace on the Royal Navy, see Andrew Gordon's brilliant study, *The Rules of the Game, Jutland and British Naval Command*, London: John Murray, 1996.

23. Echevarria, p. 4.

24. The Soviet T-34 was a terrible shock to the Germans in summer 1941, although panzer general Heinz Guderian indicates in his memoirs that the Germans had some indicators before the start of Operation BARBAROSSA that the Soviets had made major advances in tank design. At the time of the Battle of Britain, British radar technology was distinctly inferior to the radar technology possessed by the Germans. But the essential point is that Fighter Command employed its radar as a part of the overall system of air defense—something the Germans would not replicate until July 1943 after Royal Air Force Bomber Command's devastating attacks had destroyed much of Hamburg.

25. As this author suggested in the mid 1990s:

What [current technological] changes mean or where they are going is not certain even in the aftermath of the Gulf War. Nothing, however, suggests that the rapid pace of innovation—underlined by the conduct of the war against Iraq—will not continue into the next century.

Williamson Murray, "Innovation Past and Present," in *Military Innovation in the Interwar Period*, Murray and Millett, eds., p. 300.

26. This is not always the case. The French Army confronted the distinct possibility of another major war with the Germans for over a 20-year period and in the end botched its transformation.

27. For a discussion of the parameters of RMA, see Knox and Murray, *The Dynamics of Military Revolution*, chaps. 1 and 9.

28. One of the major factors in the German defeat was that the Luftwaffe's high command never understood that its forces were up against a system of air defense rather than a series of ground control intercept sites controlling individual intercepts. See Williamson Murray and Allan R. Millett, *A War To Be Won, Fighting the Second World War*, Cambridge, MA: Harvard University Press, 2000, p. 86.

29. On the development of German combined arms mechanized warfare, see Murray, "Armored Warfare," in *Military Innovation in the Interwar Period*, chap. 1. The traditional picture of the tank-Stuka team was, in fact, largely a figment of Dr. Goebbels' overwrought imagination. It was not until after the French campaign that the Germans developed the tactics and procedures for providing close air support to the panzer spearheads. See Williamson Murray, "The Luftwaffe Experience," in *Case Studies in the Development of Close Air Support*, B.F. Cooling, ed., Washington, DC: U.S. Government Printing Office, 1990.

30. The one exception in the literature is General Erich Marcks, who soon after the defeat of France was to be responsible for drawing up the first plan for Operation BARBAROSSA. Marcks noted in his diary shortly after the Fall of France: "the change in men weighs more heavily than that in technology. The French we met in battle were no longer those of 14/18. The relationship was like that between the revolutionary armies of 1796 and those of the [First] Coalition—only this time we were the revolutionaries and Sans-Culottes." In other words, Nazi revolutionary ideology had played the key role in the victory. Generalmajor Erich Marcks, June 19, 1940, quoted by MacGregor Knox, "The 'Prussian Idea of Freedom' and the Career Open to Talent Battlefield Initiative and Social Ascent from Prussian Reform to Nazi Revolution, 1807-1944," in MacGregor Knox, *Common Destiny: Dictatorship, Foreign Policy, and War in Fascist Italy and Nazi Germany*, Cambridge: Cambridge University Press, 2000.

31. The term "bureaucratic entrepreneur" comes from Hone, Friedman, and Mandeles in their description of Moffet's skills in *American and British Aircraft Carrier Development*, p. 181.

32. *Ibid.*

33. The first book in English to make clear the processes by which the Germans developed their offensive and defensive concepts for ground war appeared in 1940 with the publication of G. C. Wynne's *If Germany Attacks*, London: Faber and Faber, Ltd., 1940. Unfortunately, the implications of Wynne's work remained buried in the catastrophe of 1940. It was not until the early 1980s with the publication of Timothy Lupfer's *The Dynamics of Doctrine, The Changes in German Tactical Doctrine During the First World War*, Leavenworth: Combat Studies Institute, 1981, that historians really began understanding what had happened in 1918.

34. For Seeckt's reforms of the German Army, see particularly Corum, *The Roots of Blitzkrieg*.

35. Rommel's book was, of course, *Infanterie Greift [Infantry Attacks]*, Berlin, 1939. For the best biography of Rommel in English that covers both his intellectual dimensions as well as his performance on the battlefields of two world wars, see Field Marshal David Fraser, *Knight's Cross, A Life of Field Marshal Erwin Rommel*, New York: Harper Collins, 1993.

36. *Die Truppenführung*, Berlin, 1933.

37. André Beufre, 1940, *The Fall of France*, New York: Cassell, 1968, p. 43.

38. *Assemblée Nationale, "Séance du Conseil supérieur de la Guerre, tenue le 2 décembre 1938 sous la présidence de général Gamelin," Rapport au nom de la commission chargé d'enquêter sur les événements survenus en France de 1933 à 1945*, Vol. 2.

39. For the professionalization of the American military, see particularly Allan R. Millett, *The General: Robert L. Bullard and Officership in the United States Army, 1881-1925*, Westport, CT: Greenwood, 1975; and *In Many a Strife: General Gerald C. Thomas and the U.S. Marine Corps, 1917-1956*, Annapolis, MD: Naval Institute Press, 1993.

40. For professions such as engineering, the law, and medicine, American society saw an increasing emphasis in the last decades of the 19th century into the 20th century on schooling and the establishment of a body of corporate knowledge for the professions. The establishment of the Naval War College at Newport, RI, and the Command and General Staff College at Leavenworth, KS, in the 19th century and the Army War College at Carlisle, PA, in the early 20th century were thus part of a larger social phenomenon.

41. Allan R. Millett, "Assault from the Sea," in *Military Innovation in the Interwar Period*, Murray and Millett, eds., pp. 74-77.

42. Hone, Friedman, and Mandeles, *American and British Aircraft Carrier Development*, pp. 33-42, 151. The authors' discussion of the contribution made by the Naval War College to actual experimentation in the fleet is particularly good.

43. *Ibid.*, p. 33.

44. See in particular, Van Creveld, *Fighting Power*.

45. See William Odom, *After the Trenches, The Transformation of US Army Doctrine, 1918-1939*, College Station: Texas A&M Press, 2000, pp. 15-46.

46. *Ibid.*, pp. 120-121. Part of the Army's problem in thinking through the difficulties involved in conducting large unit operations was, while it was the same size as the Reichsheer through to the early 1930s when the Germans began to expand their ground forces, the U.S. Army had its units spread all over North America, where it was impossible to bring division-sized units together for annual training. The German army, concentrated in a much smaller area, could concentrate their forces for their annual maneuvers.

47. Part of any military organizations' understanding of war has much to do with the geographical position of the nation. The Germans have never had to get to the war, so they do not place logistics at the top of the priorities. Americans, on the other hand, have always had to think about the projection of military power—how to get to the war. Hence, they have had to begin with logistics. The same has been the case with intelligence. The Germans thought only about their next-door neighbors, the Poles, the Chechs, and the French. The catastrophe of December 1941 underlines how little they had thought about the Soviets. They thought not at all about the United States, as their declaration of war on the United States on December 11, 1941, underlines.

48. In the area of logistics, the German conduct of Operation BARBAROSSA, especially the fall campaign, represents the most appalling contempt for the logistical side of the equation. As for intelligence, the fact that the Germans had their top level ciphers broken throughout almost the entire course of World War II suggests an arrogance and incompetence that beggars the imagination, especially on the part of the Kriegsmarine which had had its ciphers broken by the British in World War I. On these issues, see Murray and Millett, *A War to Be Won*, pp. 131-137, 244-247.

49. It is worth noting that Wilhelm Keitel passed the *Kriegsakademie* entrance examination.

50. B. J. C. McKercher and Michael A. Hennessy, *The Operational Art, Developments in Theories of War*, Westport, CT: Praeger, 1996, p. 166.

CHAPTER 2

NEW AGE MILITARY PROGRESSIVES: U.S. ARMY OFFICER PROFESSIONALISM IN THE INFORMATION AGE

David R. Gray

I now regard the Indians as substantially eliminated from the problems of the Army . . . such Indian wars as have hitherto disturbed the public peace and tranquility are not probable.

Lieutenant General William T. Sherman
Commanding General, US Army (1883)¹

The war with Spain . . . procured us a prominent place among the nations . . . [and] although we abstain from calling ourselves as such we are virtually one of the Great Powers and one of the greatest of them. With our new position there has descended on our shoulders a heavy burden resting on all Great Powers, of assisting in the regulating and shaping of human affairs. From the moral and intellectual view no nation is better qualified for such a task.

Captain Carl Reichman, USA (1906)²

In the quarter century separating Sherman's and Reichman's observations, the U.S. Army experienced an identity crisis, sought out a new *raison d'être*, and transformed itself to meet new responsibilities. Even before organized hostilities on the frontier came to a close, thoughtful officers were considering the Army's future mission and role in society. The scale and complexities of the Civil War had profoundly affected the outlook of a significant portion of the officer corps. Mindful also of the sweeping changes in modern weaponry and improved military command methods in Europe, broad-minded officers anxiously watched as warfare grew progressively more complicated. Most concluded that only an officer corps of professional soldiers, not frontier policemen, could

master modern war. Calling for internal reforms to adapt to a new century, progressive “Young Turks” conceptualized a fresh role for the Army.

An increasingly professionalized officer corps conceived the Army’s mission to be one of perpetual readiness for war. The institution would now serve as a “school” to teach soldiers how to fight and win future wars. Spurred by institutional in-fighting, technological developments, and international concerns, the Army improved its troops’ living conditions, reconfigured its organization, acquired modern equipment, and developed new operational concepts. Officer reformers argued that modern warfare required a lifetime of study and pressed for an extensive system of military post-graduate education. Establishment of such a system contributed to a “renaissance” in military thinking in the 1870s and 1880s that redefined officership. Despite its continued performance of constabulary duties, the officer corps’ stress on readiness for war profoundly altered institutional culture, enabling the Army to change in form and character. Moreover, acquisition of an overseas empire paved the way for further reforms to forge an Army that could advance national interests abroad. Additional improvements, including the creation of a general staff and recognition of the National Guard as the nation’s primary military reserve, continued a successful transformation process and set the conditions for America’s important participation in World War I.³

A century later, the Army’s *raison d’être* is again in question. Victorious in two world wars in the first half of the 20th century, the Army spent the next 40 years deterring and containing communist expansionism during the Cold War. The officer corps’ professional ethos founded on readiness for war served the Army well during this period, as containment involved fighting several “hot,” but limited wars. However, strategic conditions at the end of the 20th century require the Army to adjust to fundamentally different circumstances. Victory in the Cold War eliminated the West’s major enemy and calls the Army’s institutional

purpose in the “New World Order” into question. That these events coincided with a period of domestic cultural upheaval and dramatic technological innovation has further confounded the Army’s efforts to redefine its relevancy. In the post-Cold War era, it has performed a wide range of missions—most not involving “traditional” combat—in support of an activist national security strategy. Like its late 19th century predecessor, the Army’s officer corps must again reassess the range of its professional duties and transform itself to meet the new century’s evolving societal, political, and strategic conditions.

Besides acquisition of new equipment and organizational restructuring, the Army must adjust its institutional military culture for the current transformation process. Just as it did during the military renaissance of the late 19th century, the officer corps will have to establish the institution’s intellectual direction and manage the associated cultural changes. Today’s societal norms, the rapid pace of technological change, and a complex strategic environment are already influencing the Army’s culture significantly. The character of the “information age,” like the industrial age that preceded it, requires the officer corps to extend its corporate outlook from the strict military functionalism of the Cold War to a more holistic view of professionalism. By adopting a fusionist perspective of professionalism, the officer corps can best broaden the dimensions of its martial expertise, renew its professional identity, and enhance its political effectiveness with civilian leaders.

Military Professionalism and American Strategic Culture.

Military professionalism and strategic culture are inseparably intertwined. A profession is a peculiar type of functional group with distinctive characteristics. Special expertise acquired through theoretical study and actual

practice, the application of that abstract knowledge to distinct problems, the memberships' identification with the job as a life-long calling, and the primacy of the clients' needs distinguish the professions. Moreover, societies grant professions relative autonomy to determine recruitment, performance, and ethical standards. Military professionalism refers primarily to the officer corps. That collective body possesses professional status because of its responsibilities and accountability to the nation's leadership for military effectiveness.⁴ The chief function of the profession of arms is the application and management of organized, socially sanctioned force in pursuit of the nation's interests. Combat and success in battle are the profession's main concerns. Unique to the military profession is the willingness to sacrifice life and limb in the service of the state.⁵

The singular requirements of military professionalism shape an armed force's organizational culture. Culture refers to the nexus of attitudes, norms, values, customs, beliefs, and education that produce the group's collective sense of identity. Culture involves both ideas and behavior; it establishes the group's world-view as well as its normative behavior for responding to particular problems. In short, culture is the "glue" that consistently binds an organization together despite changes in leadership.⁶ Warfighting, the military's core competency, defines that culture. That culture shapes the context of professional soldiers' understanding of warfare in all of its manifold dimensions. The virtues of physical courage, self-denial, self-sacrifice, obedience, and discipline embodied the traditional ethos of military professionalism.⁷ Its icons are those of the masculine warrior—the infantryman, paratrooper, or tank crewman, for example—who personifies the martial ethos. Structured in hierarchies to facilitate unity of command and mission achievement, military societies are undemocratic and stress the value of the group over individual desires. General Sir John Hackett, a former commander of the British Army of the

Rhine and brilliant classicist, has succinctly summed up the essence of military culture:

The essential basis of military life is ordered application of force under an unlimited liability. It is the unlimited liability that sets the man who embraces this life somewhat apart. He will (or should) always be a citizen; as long as he serves he will never be a civilian.⁸

Although the military profession—and by extension the Army—possess distinctive characteristics from civilian society, the state it serves shapes its organization, purpose, and behavior. Unique geographical, social, ideological, and technological factors also contribute to a nation's consensual image of war.⁹ This image of war, or strategic culture, profoundly influences the status of military professionalism in society and conditions its martial behavior. America's individualistic, freedom-based political ideology, pluralistic military institutions, absolutist conception of national security, penchant for material solutions to problems—especially technological ones—and geographical isolation are the basis for the American way of war. That strategic culture has molded the Army's core tasks and organizational ethos.

Not surprisingly, American ideology and political culture have forged the nation's attitude toward military institutions and the use of force. Founded on the idea of natural rights, American culture emphasizes liberty, individualism, capitalism, entrepreneurship, and distrust of centralized power. The latter point especially underscores fear of charismatic military "men on horseback" and standing armies, which represent tyrannical threats to civil liberties. To balance national security needs with individual freedoms, the republic's Founding Fathers enshrined the concept of civilian supremacy over military forces in law. Constitutional provisions split responsibility for military command, organization, and oversight between the President and Congress. The Constitution also established a dual army

composed of regulars and militia; this concept provided for immediate security needs, while ensuring the nation's citizens' had a stake in the outcome of its wars. These pluralistic institutions provided socially acceptable means to achieve the Constitution's stated purposes to "insure domestic tranquility" and "provide for the common defence" against external threats.¹⁰

Grounded in classic liberal tradition, American society regards peace and war as diametrical conditions. War is an aberration, a breakdown in otherwise peaceful relations between states. Appealing to the unique destiny of the United States to spread its democratic ideals, American political leaders often cast the nation's conflicts as ideological crusades to mobilize popular support. During war, America seeks clear-cut victory at the lowest cost through the application of massive military force to restore normalcy. American armed forces rely on the nation's material might and technology to overwhelm the enemy, while minimizing their own casualties.¹¹

Besides ideology, geography has also shaped the American way of war. Isolated by two oceans and bordered by two militarily weak nation-states, the United States enjoys relative freedom from external invasion, reducing the need for conventional defenses of its territory. Conversely, that same geography makes projection of land power especially difficult. The expeditionary nature of American power projection requires a high degree of interservice cooperation, a cooperation often marred by institutional rivalries and conflicting missions. Moreover, America's geographical position ensures that land power depends upon both sea and air power just to get its legions to overseas battlefields. Knowledge and understanding of joint operations is, therefore, a fundamental element of professional military expertise.

These ideals and material factors had important consequences for the development of military professionalism in the Army. First, from the earliest of days

of the republic, an acute tension has existed between the ideals of liberalism and the traditional military values of subordination, discipline, and obedience to a hierarchical chain of command. While inculcating military virtues, the professional socialization process dampens, but does not completely eliminate, that tension. Second, the officer corps responded to the nation's historical distrust of government power, especially in the military form, by adopting over time the principle, if not entirely the practice, of military noninterference in political matters. The roles of officer and politician were distinct; officers offered advice to civilians only on military matters, not political issues. This tradition reinforced the notion that peace and war were separate spheres governed by independent rules and with different overseers. Third, the conceptual isolation of politics and military operations created a military preference for absolute solutions to external security problems. This absolutist approach expressed itself in the officer corps' affinity for total victories as expressed by Grant's unconditional surrender demands in the Civil War or the destruction of hostile Indian tribes blocking westward expansion.

The officer corps' conception of warfare is congruent with the nation's strategic culture and the Army's historical experience. The belief that the international system will largely remain the same underlies American assumptions regarding war, as well as assumptions that the Westphalian system of sovereign nation-states will continue to compete in an anarchic world dominated by national self-interests and where armed combat serves as an instrument of policy. The use of force remains the exclusive province of regular military establishments directed by an officer elite and governed by rules and customs. When engaged in war, America will interpret national objectives in absolute terms by seeking the complete overthrow of its opponents' capacity to resist. As a result, Americans expect to dictate, not negotiate, settlement terms that end a war, regardless of whether it is total or limited in character. America's armed

forces, therefore, prefer strategies of annihilation to destroy an enemy's military capabilities as the quickest means toward achieving victory. Towards this end, the Army aims to overwhelm the enemy by applying decisive force—the combination of massed effects, material overmatch, and sophisticated weaponry. Optimism that force of American arms can achieve ultimate victory in war underpins the officer corps' professional self-esteem.¹² This "absolutist" perspective, entrenched in a pessimistic belief in the permanency of war and stress on military victory, has consistently dominated the Army's military culture.¹³

The increasing professionalism of the Army's officer corps set in motion during the dark days of constabulary duty on the Western frontiers paid dividends during the 20th century. In two World Wars, professionals organized, equipped, and deployed immense armies composed of citizen soldiers to overseas theaters. The professionals then led their citizen soldiers to clear-cut military victories. Cooperative civil-military relations reached their zenith during World War II with General George C. Marshall serving as the model for professional selfless service.

The Cold War, however, challenged the high state of military professionalism achieved by 1945. Paradoxically, the Cold War's increasing militarization of American society coincided with the declining credibility of the officer corps' claim to sole expertise in employing military force. The nation's reliance on a strategy of nuclear deterrence, the rise of civilian defense intellectuals in policy circles, and the limited wars in Korea and Vietnam undermined the officer corps' professional ethos and invoked resistance to wars without military victory. The possibility of nuclear Armageddon—an absolute war so terrible that it threatened to make traditional notions of war obsolete—struck at the underpinnings of military professionalism. The nuclear age restricted traditional military practice to a narrow spectrum of conflicts without clear distinctions between war and politics. It certainly ended the possibility of achieving an unconditional

surrender. The new era of limited war frustrated the Army's officer corps, which chafed at restrictions on waging decisive land warfare.¹⁴

Following a bitter defeat in Vietnam, the Army's officer corps reformed the institution and restored the traditional focus on conventional war against a major power, in this case against the Soviet Union in Europe. The rigorous emphasis placed on officer professionalism during the 1970s and 1980s restored morale and increased martial expertise.¹⁵ The efforts seemed well placed as the Cold War ended in a bloodless victory with the collapse of the enemy. The decisive use of force in Panama and Iraq reinforced the notion that the officer corps had achieved a level of competent professionalism not seen since World War II. Once again professional and civilian conceptions of how to fight a war converged and established the vision for future conflicts—civilians setting clear policy goals and the military using overwhelming force, founded on the nation's technological advantages, to achieve discernible results. This image of future war resembled, as one scholar has asserted, "a reprise of World War II in the fancy dress of high technology."¹⁶ But the New World Order has proved more different than imagined. Changes in America's social norms, technological innovations, and evolving global geo-political commitments call for professional reappraisal of the military art for the new age.

As it crafts the future direction of the profession, the officer corps must recognize the effect of these changes on its distinctive ethos and culture. Out of habit, the officer corps will routinely choose operational responses consistent with American strategic culture and traditional military practices. But the new era will require adaptation and rethinking of some traditional concepts to meet fully America's evolving security requirements. Although readiness for war must remain its central defining feature, officer professionalism in the 21st century must adopt a corporate view that is more fusionist in perspective. Fusionism emphasizes expertise in technical military

matters, but also consideration of the potential impact of political, economic, technological, and social factors on military operations.¹⁷ A fusionist officer corps will be better able to reconcile the distinctiveness of soldiers' calling with changing social norms, to broaden the scope of military expertise to meet complex security demands, and to enhance their credibility with civilian leaders by providing realistic advice on national security matters.

Officer Professionalism in an Age of Military Indeterminacy.

Adapting to the challenges of the new century is as daunting a task for today's officer corps as it was for Army professionals a century ago. Like their predecessors, officers anxiously prepare for the future in a period of change characterized by the military's declining importance in society and indeterminate threats to security. Assimilating post-modernist ideology and the effects of sophisticated technologies, American society is in a period of social transition as sweeping in impact as occurred during last century's reshaping of life by the Industrial Revolution. Military concerns, largely preeminent in the Cold War, have begun to slip into the background of social and political discourse, except perhaps for debates regarding the military's slowness to adopt prevailing cultural norms. Externally, the United States faces no military powers capable of threatening its sovereignty or survival except through all-out nuclear attack.

A number of lesser perils, however, jeopardize the relative peace. Because the United States has assumed the role as enforcer of global stability, the American military must be capable of operating in a broad range of circumstances often perceived as incongruent with the traditional professional ethos. These changing dynamics have blurred lines between civilian and military expertise and called into question the Army's self-identity and need to perform close combat, its defining competency.

Post-modernist cultural mores contradict the corporate norms the Army historically has needed to wage sustained land warfare and engage in close combat. Army culture identifies team effort to achieve success in battle: discipline, obedience, and loyalty to a hierarchical chain of command as the essential military virtues. In post-modernist culture, all values are subject to interpretation, truth is relative, and relationships to institutions, especially governmental ones, are suspect. Ironically, as America honors the collective sacrifices of the "Greatest Generation" during World War II, post-modern models for behavior prize assertive individualism, portable loyalty, and self-actualization. Diversity and self-affirmation are the corner stones of the culture. Moreover, the melting away of long-held societal taboos associated with gender and sexual orientation in post-modern society have affected the essence of military life. The masculine nature of military culture, resting on men's physical prowess and singular role as fighters, has devolved with the opening of more career fields to women. After acrimonious public confrontation over the issue of homosexuals in the military and a series of sex scandals, the Army adopted compromise measures to combat abuses and make its culture more open to prevailing social mores.¹⁸ The character of post-modern culture, therefore, undermines traditional aspects of the professional ethos and corporate cohesion.¹⁹

Changing social mores have coincided with massive technological advances, which have also caused the Army to examine the way it will fight in the Information Age. According to the prevailing view in academic and security studies circles, the world has entered a dramatically different era of warfare. The sheer momentum of technological progress, especially the rapid spread of computer-based information systems, has sparked a revolution in military affairs (RMA). The scope and character of this RMA varies according to the source consulted; however, the Army has accepted many of the basic premises in crafting its vision of future warfare.²⁰

Central to its transformation efforts is the Army's belief that information technologies will play the major role in shaping the conduct of future land combat. Speed and knowledge are the fundamental features of Information Age warfare.²¹ Swift advances in information technologies will provide forces with better situational awareness, both of the enemy's and one's own location on the battlefield. Superior battlefield awareness allows small, mobile units to control greater areas. On the nonlinear battlefields of the future, more modular combined arms teams will employ precision munitions at greater ranges with exacting accuracy. Moreover, information superiority will enable friendly forces to reduce their vulnerability through dispersion, make decisions more rapidly than the enemy, and operate at faster tempo. Precision strikes, rapid maneuver, and simultaneous assaults will overwhelm opponents before they can react. Flatter, more "networked" fighting forces are more effective than "hierarchical organizations that are large, slow and nonstealthy" in this style of warfare.²² By stressing conventional warfare between opposing armies and use of high technology to overcome enemies in rapid, decisive operations, this vision of future warfare coincides closely with the traditional American way of war.

Post-modern mores and technological imperatives together have profound implications for the military profession. First, the officer corps will continue to draw its entrants from a decreased pool of manpower. Part of the problem is demographic, a shrinking base of available military age manpower in the early 2000s, and part economic. What Generation Xers may lack in military virtues, they make up for in technological literacy. Arguably, information technologies further enhance the trend toward individualism by providing access to a wider base of knowledge and increasing personal productivity. The military must compete in an expanding economy dependent on high technology for sustained growth. This economy has produced a huge job market for "dot-com savvy" individuals. Finding the right incentives to attract

high-quality, technologically-oriented officer candidates willing to subordinate some of their individuality to conform to hierarchical, organizational discipline and control will be challenging. Indeed, the Army's newest recruiting slogan, "An Army of One," addresses this dynamic by attempting to persuade potential recruits that they will not lose their individual identity upon entry into the organization.²³

Second, the boundaries between combat and noncombat activities have become more indistinct. Are information technicians who use computer code to disrupt power grids, telephone exchanges, or water supplies engaging in or supporting combat? And if this action constitutes "combat," then how can the military profession lay claim to a special expertise, since many civilian computer technicians could perform the same task as effectively? Similarly, the accelerating use of long-range, over-the-horizon precision munitions to engage targets will redefine the meaning of close combat and potentially realign the dynamics of the Army's professional ethos. The adjustment in professional ethos would likely be more akin to that of bomber pilot or nuclear missileer culture than that of traditional combat arms culture, which willingly accepted killing the enemy within observable range of direct fires as an inherent necessity. The distinctions are important because of the degree of emphasis placed on individual technical competence rather than demonstrated leadership. If one can reduce warfare to the destruction of a few key targets sets by small teams of warriors rather than the application of organized violence by large operational formations, military culture would then place more value on the former rather than the latter. The opposite is true today. Thus, the interaction of changing cultural mores and acceptance of a technological view of warfare replaces the fighter with the computer "geek" as the icon of military professionalism. And in some cases, civilian contractors, like the mercenaries of the 16th and 17th centuries, may supercede trained soldiers as the practitioners of new age warfare, placing the status and prestige of the military profession at risk.

The post-modern mechanistic view of war, so appealing in its near bloodless, video game-like qualities, virtually ignores other forms of warfare that American soldiers are likely to face in the future. Information war enthusiasts persistently tend to minimize examples where an opponent's will has overcome technological and organizational superiority. Recent examples abound, beginning with Vietnam (which the U.S. Army, as an institution, steadfastly refuses to examine with any deep intellectual honesty), Afghanistan, Chechnya, as well as the current trouble between the Israelis and Palestinians.²⁴ Technological superiority failed to produce quick, decisive results in any of these conflicts. Human factors played a greater role in determining the outcome, as less well-equipped opponents effectively found adaptive means to mitigate the effects of more technologically sophisticated weaponry. Indeed, the most effective strategies employed by a technologically weaker power—the Maoist strategy of people's war and *dau tranh*, the North Vietnamese variant—stress the enduring power of man over machine. The point is that technological advances will not alter the fundamental features of war: fear, uncertainty, and ambiguity. Although mastering the tools of war will remain a fundamental part of military expertise, more crucial will be the rapid comprehension of a war's political context and an enemy's approach to fighting, which will likely be very different than described in information war literature.²⁵

Moreover, in coming decades the officer corps will likely confront wars more akin to Vietnam than Starship Troopers. Arguably, Vietnam represented the first Information Age war. The war contained most of the features now touted as unique to the knowledge-based warfare of the 21st century. American forces employed an impressive array of advanced technologies—sophisticated seismic and acoustic sensors, the first generation of air-launched precision-guided missiles, and computers for processing intelligence and battlefield results—against an elusive enemy. Within one geographically diverse theater of

war, American forces fought toe-to-toe with North Vietnamese regular army, engaged Viet Cong insurgents, rebuilt villages as part of pacification efforts, and bombed targets in North Vietnam, all in full view of a seemingly ubiquitous media. These activities occurred simultaneously in widely separated areas of responsibility. Determining what kind of war to fight and with what type of forces proved as problematic for small unit commanders as for the Commander, Military Assistance Command Vietnam. The multi-faceted nature of the war considerably stressed the officer corps' intellectual agility to adjust rapidly to vastly different hostile environments. The complexity of switching among conventional, counterinsurgency, and pacification operations proved especially daunting.²⁶ Vietnam, therefore, provides a glimpse of the type of "full spectrum operations" officers must prepare themselves to fight in the future.²⁷

Fortunately, the national security strategy of engagement has nudged, if not forced, military professionals to confront troublesome small wars and disparate forms of conflict. The strategy emerged in the heady aftermath of the Cold War, when the United States became not just one of the Great Powers, but the world's sole Superpower. Reacting to sweeping international change and fresh from decisive victories in Operations JUST CAUSE and DESERT STORM, President George Bush adopted "peacetime engagement" as the new American national security strategy in 1991. The strategy focused on prevention rather than reaction. Henceforth, American power would attempt to reduce the "root causes" of conflict through heightened nation assistance, multilateral responses to security problems, and, when required, the discriminate application of overwhelming military power to keep the peace.²⁸ Bush first tested the strategy during Operation RESTORE HOPE in Somalia shortly before leaving office. The Clinton administration clearly accepted the logic and grammar of peacetime engagement. The Clintonian strategy of "engagement and enlargement" held that global stability in

the new world order depended upon a vastly different type of military force structure, more innovative military strategies to “shape” the international context, and perhaps even a different type of officer corps than that required in the Cold War.²⁹

The dynamics of the post-Cold War world and the strategy of peacetime engagement have forced the Army to prepare for high-end conventional combat while simultaneously performing many “military operations other than war.” These latter operations included peacekeeping, counterdrug operations, humanitarian assistance, and disaster relief in such diverse locations as Bosnia, Columbia, Haiti, and East Timor. During the 1990s, operations other than war became routine, causing military leaders to pay greater sensitivity to political, economic, and cultural factors than they might have during combat operations against a clearly defined enemy. Acting directly in concert with a number of governmental agencies, allied and host nation forces, media contingents, and civilian nongovernmental agencies has further complicated military planning and execution. The ambiguous nature of operations other than war has produced some frustration and grumbling in professional military ranks. Reflecting traditional concerns about appropriate military roles, many complain that such tasks are nontraditional, improper, and detrimental to combat readiness.

Peacetime engagement has created two vexing conundrums for the American military profession. First, the officer corps has resisted the use of military force in many of the past decades’ humanitarian interventions because they appeared antithetical to its preferred operational style and strategic culture. After the devastating firefight in Mogadishu, Somalia in 1992, the military chafed against so-called humanitarian interventions that lacked clear-cut objectives and applied force discretely, but not necessarily decisively. For an officer corps that identified with heroic leadership in conventional battles, peace operations seemed too much like police work that could sap the combat ethos.

Many officers worried that prolonged participation in peace operations would damage the warrior ethic required for success in combat.³⁰ Restrictive rules of engagement and political pressures (real and perceived) to avoid casualties undermined the professional ethos of sacrifice and unlimited liability. That overemphasis on force protection was having a pernicious effect on the profession was apparent as commanders told subordinates that “there was nothing worth dying for in Bosnia.”³¹ Reluctance to carry out missions that do not comply with the military’s preferred operational style may have undermined the credibility of military advice with civilian leaders, as the acrimonious exchange between Colin Powell and Madeleine Albright over the Bosnian intervention suggested.³²

Peacetime engagement also underscored the blurring of traditional boundaries between civilian and military responsibilities. Military officers have become not only practitioners of the military art, but also agents of diplomacy. At the tactical level, for example, officers of all ranks engaged in negotiations with local civilian leaders, factional military commanders, and members of the international community during peace operations in Haiti, Bosnia, and Kosovo. Because of the national security strategy’s emphasis on “shaping” the peacetime environment, geographic commanders in chief (CINCs) of regional commands have become important emissaries of foreign policy at the strategic and operational levels. Working alongside the U.S. ambassadors within their regions, the CINCs increasingly have become involved in high level military-to-military and diplomatic contacts that often develop into personal relationships with key elites in their theaters of operation. These relationships have a major impact on the CINCs’ ability to implement portions of their theater engagement plan and influence events during a crisis. With access to great resources and ability to execute engagement programs, the CINCs’ influence in some cases exceeds that of the U.S. Ambassadors. A recent *Washington Post* article characterized the CINCs as the “modern-day

equivalent of the Roman Empire's pro-consuls: well-funded, semi-autonomous, unconventional centers of U.S. foreign policy."³³ The impetus to prevent instability in the regional commands, therefore, often places the CINCs in the forefront of diplomacy, traditionally a State Department function.

The practical effect of peacetime engagement is to push the military professional mind-set away from absolutism toward pragmatism. One can only measure the success of the CINCs' shaping strategies and military commitments in Bosnia and Kosovo in the long term, not short decisive victories over hostile factions. Some form of engagement will likely remain America's strategy for the foreseeable future. Therefore, the officer corps must understand the subtle distinctions between military power (potential capability) and military force (the product of capability, will, and fighting spirit), as well as to the socio-political dynamics associated with their use. The pragmatic code primarily emphasizes the measured application of force and its political consequences. Despite the pragmatic code's embodiment of Clausewitzian and fusionist perspectives, many civilian leaders and academics worry that the officer corps' greater sensitivity to political factors is undermining civil-military relations.

Political Savvy and Effectiveness.

Since the late 19th century, Army leaders from Sherman to Marshall have emphasized the separation of military from political advice and discouraged active political partisanship. Although the Army's continued performance of constabulary missions prior to World War I required officers to exercise political skills, the preferred professional outlook denigrated politics and "political officers." Officers of Marshall's generation, and Marshall himself, did not even vote lest even the hint that partisan political concerns taint their military advice.³⁴ The professional ethos that helped insulate officers from partisan political matters

slowly eroded during the Cold War. Disputes over service roles and missions, inequitable distribution of scarce resources, and evolving global strategy all contributed to civil-military tensions. The tensions simmered within every administration during the Cold War and often boiled over into public view. The revolt of the admirals, MacArthur's relief as Commander in Chief in the Far East, Ridgway's and Taylor's feuds with Eisenhower's "New Look" policy, and the outright rejection or manipulation of military advice during the Kennedy and Johnson administrations provide just a few examples of deteriorating relations.³⁵ Muted for a short time during the 1980s, the tensions resurfaced shortly after Operation DESERT STORM as the Bush and Clinton administrations considered the shape of the New World Order.

The military's increasing role in political matters, especially at the highest policy level, during the 1990s has raised red flags of warning in civilian academia and policy circles. Some fear that, by expanding the scope of military advice into areas traditionally dominated by civilian policy makers, a fusionist officer corps has become overly politicized, seriously jeopardizing civilian control of the military. Critics cite General Colin Powell's behavior as Chairman of the Joint Chiefs of Staff as proof of corrupted military professionalism that had gone "out of control."³⁶

Powell's shaping of military strategy and public airing of his strong views on military intervention in Bosnia provoked considerable controversy. Viewing the strategic problem within the context of American experiences in Korea and Vietnam, Powell argued: "As soon as they tell me it is limited, it means they do not care whether you achieve a result or not. As soon as they tell me, 'surgical,' I head for the bushes." "Decisive means and results are to be preferred," the Chairman asserted, "even if they are not always possible."³⁷ Critics lambasted Powell as an insubordinate and labeled him the new "McClellan."³⁸ That the Clinton administration initially accepted the wisdom of Powell's arguments appeared even more troubling to critics. The

Chairman's directness, candor, and subsequent "political maneuverings" in offering alternatives to President Clinton's plan to lift the ban on homosexuality in the military convinced one noted scholar that "the military is more alienated from its civilian leadership than at any time in American history and more vocal about it."³⁹

However, the critics' views ignored the critical role of military advice in policy formulation, recent legislation, and historical traditions in helping to balance civil-military relations. Clausewitz clearly recognized that officers must consider all relevant factors when giving advice to their civilian masters. The Prussian theorist correctly asserts that a "purely military opinion is unacceptable and can be damaging," because "no major proposal required for war [or operations other than war for that matter] can be worked out in ignorance of political factors." To ensure the best coordination and integration, Clausewitz advised governments to appoint the commander-in-chief to the cabinet where he and his country's political leaders could jointly discuss strategic policies.⁴⁰ Clausewitzian in character, the 1986 Department of Defense Reorganization (Goldwater-Nichols) Act legally mandated the position of Chairman, Joint Chiefs of Staff as the President's "principal military adviser." On all matters relating to the military, Powell, therefore, had a responsibility to make his views and those of the Joint Chiefs known to the President. The law also required the Chairman to present dissenting views within the Joint Chiefs to air all sides of an issue. The decision to accept or reject the Chairman's advice remains the President's.

Many critics worry that the law has created a Chairman with too much power and a highly adept Prussian-style General Staff skilled at manipulating civilian authorities. This concern overstates the case because the four services' officer corps approach security issues from different cultural perspectives and lack a homogenous corporate outlook. Besides strong traditions of military subordination to civilian authority, Constitutional and administrative

barriers continue to prevent the military from gaining too much control over policymaking. Moreover, participation in the policymaking process, which involves thorough considerations of ends, ways, and means relationships, is more likely to generate greater loyalty to the nation and enhance, rather than detract from, civilian control of the military.

The role of uniformed officers, especially the top brass and those in strategy or policy planning billets, is primarily to advise civilian political leaders on the armed services' capabilities, limitations, and appropriate uses for military power. Always keeping the human dimension in mind, officers recommend how military means can best achieve policy aims. Strategists, while serving as the experts in the management of violence, must also consider their recommendations within the overall context of the strategic environment. Since military action taken by states can never exist in isolation from domestic and foreign politics, economic issues, or media coverage, military plans based on "real-world" considerations will carry greater weight with civilian policymakers.⁴¹ As former Chairman of the Joint Chiefs of Staff Maxwell Taylor once noted, "nothing is so likely to repel the civilian decisionmakers as a military argument which omits obvious considerations which the President cannot omit." If an officer wanted to "persuade the President," Taylor further argued, then he had "better look at the totality of [the President's] problem and try to give maximum help."⁴² Placing military advice within a broader perspective is likely to have more influence with civilian leaders than that confined to essential military aspects.

The last decade's civil-military tensions have chipped away at the Army's political effectiveness. Political effectiveness refers to the ability of the Army's senior leadership to secure *consistently* the resources required to maintain, expand, and reconstitute itself. To remain viable, the Army requires reliable access to financial support, an adequate military-industrial base, sufficient quantity and

quality of manpower, and control over the conversion of resources into actual capabilities. Because decisions regarding the allocation of these resources involve political issues, military leaders must obtain the cooperation of the national political elite. Political effectiveness hinges upon the civilian political leadership's beliefs about military activities. Whether they believe military activity is legitimate and view officership as a profession requiring special expertise determines the credibility and weight of arguments for resources. To what extent Army leaders can more persuasively articulate their service's needs over those of their competitors provides the measure of political effectiveness.⁴³ Continued questioning of peacekeeping missions, the unveiling of weapons systems deemed more fit for the Cold War than future conflicts, a series of well-publicized sex scandals, and the inability to project rapidly heavy forces to Kosovo have all marred the Army's political effectiveness in recent years.

The officer corps has a responsibility to increase its political effectiveness, without which the Army will suffer from insufficient resources and institutional decline. Civilian leaders routinely ask officers for their expert military advice on a variety of issues. To make the institution's voice heard, officers must develop "political savvy" and participate in "constructive political engagement."⁴⁴ A politically savvy officer corps derives its credibility from proven military skills and consistent, impartial advice rooted in the contextual interconnections between politics, policy, and strategy. By offering intellectually sound advice, a politically savvy officer corps can educate civilian leaders on military perspectives. This requires increased understanding of the Constitutional division of war making powers and the tensions it creates between the President and Congress, the relationship of military to society, and connections between politics and the application of military force.

Realistic political education focused on the role of the military, especially the Army's, in society can address the

first relationship. This process must not stop with pre-commissioning courses but form a significant portion of the entire professional education system. It should start with the fundamental requirement for officers to understand the Constitution and basic civics—the 2000 presidential election showed just how ignorant Americans in general are about their country's basic principles of governance. Although the curriculums at the U.S. Army Command and General Staff College and the U.S. Army War College address some aspects, field-grade students should study more deeply the connections between the branches of government, both in law making and national security formulation. Understanding the dynamics of the American legislative process is essential in the policy and budgeting arenas, especially how political compromise and local politics influence the outcome of budgeting, weapons procurement, and base realignment decisions. Without such a background and consideration of the checks and balances in American government, the officer corps will be unable to influence government leaders on military matters.

The second relationship between politics and war requires not only theoretical training, but also a reassessment of the meaning and ethics of professional military advice. Currently, the Professional Military Education (PME) system exposes field grade officers to military theory, especially the work of Prussian theorist Carl von Clausewitz. In *On War*, Clausewitz states that “war is the continuation of policy by other means” and that “war should never be thought of as something autonomous but always as an instrument of policy.” Because “war is a branch of political activity,” Clausewitz further argues that it “cannot be divorced from political life; and whenever this occurs in our thinking about war, the many links that connect the two elements are destroyed and we are left with something pointless and devoid of sense.”⁴⁵ These statements underline that officers serving on higher level

staffs involved in national security must possess a thorough understanding of the political policymaking process.

Political sophistication does not mean officers can or should become involved in partisan politics. Nevertheless, the officer corps cannot remain completely aloof from political issues that affect the profession in an age of intrusive, around-the-clock media coverage. The nature of the American political system and the various symbiotic links between the defense industry and government will prevent the officer corps from doing so when expert military advice is needed. Moreover, the officer corps must be able to address honestly the impact of contentious social issues on military effectiveness. The close connection of politics, strategy, and resources make apoliticism, if it ever truly existed, an unobtainable ideal. Indeed, Powell counseled officers attending the National Defense University to gain a better understanding of politics and the media because "politics is fundamental." According to the former Chairman, "there isn't a general in Washington who isn't political, not if he's going to be successful, because that is the nature of our system."⁴⁶ The real civil-military issues involve avoidance of partisan, interest-group politics and the delineation of what constitutes legitimate dissent with civilian leaders. The line between advice, advocacy, and activism is a fine one that officers must walk carefully. And it is on this issue that critics have correctly noted a significant change in the professional culture.

A recent comprehensive study of civil-military relations by the Triangle Institute of Strategic Studies found that evolving professional norms contradict traditional understandings of civilian control. The survey indicates that a majority of officers believe it is proper for the military to "insist rather than merely advise (or even advocate in private) on key matters, especially those involving the use of force." This extends to senior military officers having a role in determining exit strategies, rules of engagement, and force tailoring for the mission. Many officers cite *Dereliction of Duty*, H.R. McMaster's influential study of civil-military

relations in the Johnson administration during the Vietnam War, as justification for the senior leaders' right to assert themselves on policy matters. Company and field grade officers also believe that senior officers have a responsibility to resist civilian political pressures and resign or retire in protest if they believe senior civilian authorities to be pursuing reckless policies. According to the survey, "nearly half of the mid-level officers said they would resign from service if their senior uniformed leadership [did] not stand up for what is right in military policy."⁴⁷

The troubling rise of civil-military distrust and the discord it has caused in the ranks of the officer corps represent unexpected Cold War legacies on military culture. The conduct of limited wars in Korea and Vietnam soured relations between civilians and the officer corps. The frustrations of those "never again" generations influenced the current crop of officers, who believe they have an obligation to make their voice heard on policy matters to prevent another Vietnam.

Embracing "no more Vietnams," much of the officer corps has become confused over their professional duties to the state, their sole client. They misconstrue their duty to *voice* professional military advice with a perceived right to *vote* on policy matters. The officer corps does not have any such right to decide national policy, nor can it under the American Constitutional system. A significant number of officers have unthinkingly accepted MacArthur's wrong-headed notion of civil-military relations. MacArthur objected to:

a new and heretofore unknown and dangerous concept, that members of our armed forces owe primary allegiance or loyalty to those who temporarily exercise the authority of the Executive Branch of Government rather than to the country and its Constitution which they are sworn to defend. No proposition could be more dangerous.⁴⁸

MacArthur is right on one point: *his* fallacious proposition inherently endangers the professional ethos.

The President is the duly elected representative of the people; his actions as commander in chief have Constitutional legitimacy. Sworn to uphold and defend the Constitution, the officer corps cannot legally or ethically pick and choose which policies they will execute. Nor is the notion of mass resignation as a weapon to be used against civilian authorities concerning policy disagreements an ethically permissible option. George Washington essentially settled the matter at Newburgh, New York, in 1783, when he dissuaded dissident officers from marching on Congress or striking.⁴⁹

Rising civil-military tensions clearly underscore the points made above regarding political literacy and the need for enlightened discourse between soldier and civilian. Moreover, the deterioration of the professional ethic requires the officer corps to reexamine the logic of civilian control of the military. "Mid-level officers seem to think we can insist on things in the Oval Office," a senior officer recently complained; "That is not how the system works at that level."⁵⁰ Officers do have a responsibility to question a policy they consider to be wrong or mistaken and discuss it candidly with civilian government leaders. Honest disagreements over policy matters do not equate to disloyalty to civilian authorities. But the forum in which military and civilian leaders discuss disagreements is important. Public challenges and resistance to presidential or congressional proposals regarding military matters, especially if they involve controversial partisan political issues, undermine the impartiality and trust of the officer corps' military advice. To avoid politicization of its ranks, the officer corps needs to discuss and reconsider its professional responsibilities to the nation. The officer corps' credibility and effectiveness depend upon a clear understanding of proper boundaries between legitimate military advice and politicization of issues.

The Information Age presents several paradoxes for officership in the 21st century. While the technological bent of the Information Age prizes specialization and individual

technical skills, their integration and synchronization into a useful system for warfighting demands an officer with a much broader range of generalized knowledge. Mastery of traditional branch specialty skills and the moral inspiration of soldiers fighting in chaotic conditions continue to be fundamental areas of officer expertise. Strategic requirements, however, oblige even low-level officers to understand joint and combined operations, as well as diplomacy and the art of negotiation. Conditioned by post-modern individualism and empowered by the ability to communicate instantaneously and with global reach, military subordinates often challenge the moral authority of more senior leaders' decisions, even as obedience and discipline under a chain of command must continue as the basis of effective military professionalism. Thus, the uncertainties of the strategic environment created by the flood of data and societal change demand officers with both greater moral courage as well as technical mastery of the art and science of war.

Officers at all levels participate in political matters to a greater degree than in the past. These activities range from negotiating disarmament of ethnic clans at the tactical level to discussions of policy with civilian elites at the strategic level. But how to speak out on matters affecting the profession of arms without the officer corps becoming politicized remains a tricky issue. The solution lies in reconciling the demands of traditional military culture with the dynamics of the new age. Military effectiveness in the next century will depend on a professional ethos founded upon the willingness always to fight when required, but selfless service to nation above all.

New Age Military Progressives.

On the eve of an impending military revolution, a group of Young Turks in the late 19th century set out a series of reforms to improve the Army's military effectiveness in a period of indeterminate security challenges. Their calls for

personnel reform and demands for professional education sparked an intellectual renaissance that provided impetus for cultural change. These early efforts paved the way for the Army's increased professionalism in the 20th century. Now a new set of military progressives from all officer ranks must lead, rather than follow, change as the Army prepares to meet the demands of the new age.

The most important challenges for the officer corps in the 21st century are intellectual and cultural. First, the officer corps must reassert its traditional authority over conceptual matters pertaining to war. Since 1945 and the birth of the atomic age, the officer corps has largely ceded serious thinking about military theory and strategy to civilian defense intellectuals.⁵¹ During the current strategic pause, the officer corps needs to do some hard thinking about the full spectrum of conflict. The experimentation process begun with the Louisiana Maneuvers, Force XXI, and Army after Next provided laudable first steps. But the work of these groups centered on conventional high tech warfare, the Army's preferred operational style. Theories of future war need to incorporate not only technological possibilities, but also consider the involvement of civilian populations and the strategies that may effectively counter America's use of decisive force. Officers must have the mental flexibility to adjust to rapidly changing conditions, to switch from one form of warfare to another, and to improvise. Mental flexibility remains wedded to practical mastery of branch specific skills in the field and continued study of the profession through formal schooling and individual reflection.

The intellectual and cultural changes necessary for the officer corps to fight America's next wars must begin in the schoolhouse. The Army provides officers with a progressive and comprehensive professional education. The tiered system synchronizes an officer's intellectual growth in line with increasing rank and responsibilities. The system works well as far as it goes. Curriculums at the staff and war colleges, however, need to spend more time seriously

considering the meaning of full spectrum warfare, from people's war to urban combat in the high tech age. The officer corps must do hard thinking about war and be mentally prepared to execute rapid *coup de mains* as well as to fight protracted conflicts against determined enemies.

The officer corps must change its cultural attitudes toward education and the desirability of faculty assignments. The Army needs to assign up-and-coming talent to its faculties. The best and brightest should see teaching as career enhancing, not career ending. During the 1920s and 1930s, the Army's institutional ethos insisted that it was important for officers to go to school, and many of the best must serve on school faculties. Omar Bradley taught at West Point and the Infantry School. Jacob Devers also instructed at West Point as well as the Field Artillery School. Walter Krueger, Alexander Patch, William Simpson, Joseph McNarny, Charles Bolté, and J. Lawton Collins served on the U.S. Army War College's faculty. Faculty duty fostered a climate of intellectual curiosity that encouraged those officers to think through many hard problems of war beforehand. All of these officers went on to high command; one cannot over state their preparation of and impact on the generation of officers who fought in World War II and Korea. Additionally, institutional commitment to education during the interwar period produced a crop of officers open to innovation. The Army must adjust assignment policies to encourage a new crop of talented officers to seek out faculty duty without fear that their career will suffer. The Army's transformation campaign recognizes the importance of education; it must now back that recognition with resources and an appreciation of contributions that the educators make in preparing leaders for battlefield success.⁵²

The Army should open up more opportunities for qualified officers to spend a year of residency at a civilian graduate school. Although technical specialists will always be needed, the Army should direct more officers toward subjects in the humanities and social sciences. A broad

liberal arts education provides officers with greater depth of intellectual insights into the human factors prevalent in war. Liberal arts curriculums also develop critical cognitive skills—analysis, synthesis, and comprehension—that equip officers to deal with war’s ambiguities and nonlinearity. Officer students would also have a chance to evaluate emerging civilian technologies that may have future military uses. Because the Army will routinely operate as part of a coalition, officers should learn a foreign language to enhance their communication skills. Besides having the time to reflect free from the distractions and frenzied pace of a unit, officers attending graduate school will reconnect with the American people and expand their understanding of civilian society.⁵³

Individual self-study will always remain a critical component of officer education. Officers can effectively use a variety of computer simulations, including some commercial games, to hone their individual tactical decisionmaking. The Army should continue to improve its distance learning capabilities and create web-based professional development courses for individual self-improvement. But short of actual combat experience, a thorough grounding in history and leadership remain essential for understanding war. Officers can also gain some perspective on their institution’s traditions and corporate spirit through well-structured individual reading programs. The Chief of Staff’s reading list provides a good start. However, the list contains only one small primer specifically on the Army’s institutional history—David W. Hogan, Jr.’s *225 Years of Service*—aimed primarily at cadets. The Chief’s reading list should include other books on the Army’s institutional history and incorporate these works into U.S. Army Command and General Staff College-level and above professional military education (PME) curriculums. Books such as Allan R. Millett and Peter Maslowski’s *For a Common Defense*, Russell Weigley’s *History of the United States Army*, or the collected essays in Kenneth Hagan and William Robert’s *Against All*

Enemies highlight not only the Army's peace- and wartime achievements, but the institution's recurring struggles over manning, strategy, organization, and reserve issues as well. Many of these themes resonate today, and a little perspective might help in addressing them realistically.

Besides educational development, the Army should review career patterns and mandatory retirement gates with a view toward extending the service tour length of career officers. OPMS XXI has redefined career tracks in anticipation of the special needs of the Information Age. Time will tell whether the system is effective, but two issues need further study. First, the nature of Officer Personnel Management System (OPMS) XXI has, perhaps unwittingly, reintroduced a form of the line versus staff antagonism that affected the officer corps through the 19th and early 20th centuries.⁵⁴ At issue is the value of command to the institution and individual officers. If the technological view of warfare in fact prevails, then individual specialists of violence, the information warriors, will displace unit commanders as the new elite, having the most desirable career path.⁵⁵ This would likely result in the most talented officers moving to those branches rather than leading units. Emphasis on technical specialization for high-tech network-centric warfare may hurt recruiting efforts for the combat leaders charged to fight the full spectrum of operations. Thus, the Army will need to monitor and continually rebalance requirements between various career tracks to ensure the best distribution of talented officers.

A second point, needing further study, is whether the current career length remains germane in the 21st century. Congress fashioned the current career during the Cold War. Improved nutrition, better health-care practices, and emphasis on physical fitness have increased the general health and life span of the officer population. The increasingly complexity and technical nature of the profession of arms requires more time to master all required skills. The officer corps is hard-pressed to understand, much less master, the requirements associated with branch

qualification, joint service, high level staff duty, unit command, and service as an active duty adviser to the reserve components assignments. Extending the career span to thirty-five or more years would take advantage of greater longevity and provide more time to comprehend the expanding range of professional skills.

To establish a common outlook for the future direction of the officer corps, the Chief of Staff should release a White Paper on professionalism. The Army released a similar paper in 1985 titled *The Professional Development of Officers Study*. Like that document, the Chief's White Paper should stress the special attributes of officership, especially the mastery of the art and science of war and the development of the warrior spirit as its principal themes. The 1985 definition of the warrior spirit remains applicable today:

Officers accept the responsibility of being entrusted with the protection of the Nation; are prepared physically and mentally to lead units to fight and support in combat; [are] skilled in the use of weapons, tactics, and doctrine; inspire confidence and eagerness to be part of a team; have the ability to analyze, the vision to see, and the integrity to choose, and the courage to execute.⁵⁶

The Chief's White Paper should emphasize the nation's special trust and confidence in the officer corps. In this vein, the document should discuss what the nation expects from Army officers, their roles and responsibilities in democratic society, standards of conduct and ethical behavior. The bounds of acceptable involvement in policy making are also in need of strict clarification. Amplification of this point is necessary because there is, as Eliot Cohen has observed, "a fine but essential distinction between political literacy—vital for an officer engaged in the complex tasks of peacekeeping or armed diplomacy—and politicization."⁵⁷ Following publication, distribution, and posting on the Army home page, the chain of command should discuss the pamphlet's contents with the officer corps using a

chain-teaching program. This method, effectively used for other important matters, will ensure the entire officer corps understands the pamphlet's message. Even with today's busy schedules, a dialogue about officership and the profession of arms is certainly time well spent.

The scope of officer professionalism in the new century must expand its area of martial expertise, renew its corporate spirit, and develop political savvy to meet America's evolving security needs. As it moves into the 21st century, the officer corps must address sweeping changes occurring in both its internal and external operating environments. The officer corps needs more thorough intellectual grounding to prepare effectively for war and carry out the broader range of missions of America's engagement strategy. The importance of intellectual preparation cannot be overstated. As General Peter J. Schoomaker, Commander in Chief of Special Operations Command, succinctly put it to his troops, "warriors must be proficient in core competencies, training for certainty, but educating for uncertainty."⁵⁸ Officers must develop a more diverse range of interpersonal skills to lead a new generation of soldiers but also to interact effectively with allies or host nation forces. Because of the blurring of civilian and military roles, officers must be attuned to the political dimensions of military issues and be able to articulate well-reasoned professional views on those subjects. Above all the officer corps must reinforce the essence of its military culture—psychological and physical preparation to kill the enemy through organized force—while loyally performing other missions as servants of the American public.

The officer corps must become the new military progressives and lead efforts to transform the Army for the new century. The uncertainty of the new world order demands an officer corps that is well educated and capable of adapting the military instrument to a wide variety of potential uses. Military leaders will likely find themselves giving advice not only on the application of force in combat

situations, but also in a peacetime environment fraught with ambiguity. Besides military options, officers will increasingly have to consider alternatives designed around the other instruments of power. Indeed, the CINCs' theater engagement plans and the operational products produced within the joint operation planning and execution system (JOPES) already furnish such details.⁵⁹ Thus, in making recommendations to policy makers, military leaders must avoid narrow professionalism and embrace a "fusionist" perspective that heeds the effects and consequences of political, economic, and technological factors. Measured in terms of its contributions to military expertise and enhanced responsibility to the state, the fusionist approach best prepares the officer corps to perform its duties as combat leaders, military statesmen, innovators, and teachers in the 21st century.

ENDNOTES - CHAPTER 2

1. William T. Sherman, quoted in Jerry M. Cooper, "The Army's Search For a Mission," in *Against All Enemies: Interpretations of American Military History from Colonial Times to the Present*, Kenneth J. Hagan and William R. Roberts, eds., Westport, CT: Greenwood, 1986, p. 182.

2. Captain Carl Reichman, "In Pace Para Bellum," *Infantry Journal*, Vol. II, January 1906, p. 5, quoted in James L. Abrahamson, *America Arms For the New Century: The Making of a Great Military Power*, New York: Free Press, 1981, p. 63.

3. The professionalization of the officer corps during the Progressive Period set the intellectual foundations for the modern Army. Intellectual change preceded many of the actual physical changes to the Army described above. On the crucial military developments in the Progressive Period, see Russell F. Weigley, *History of the United States Army*, enlarged edition, Bloomington: Indiana University Press, 1984, pp. 265-354; Allan R. Millett, *The General: Robert L. Bullard and Officership in the United States Army 1881-1925*, Westport, CT: Greenwood Press, 1975; Abrahamson, *America Arms for a New Century*; Peter Karsten, "Armed Progressives: The Military Reorganizes for the American Century," in *The Military in America from the Colonial Era to the Present*, Revised Edition, Peter Karsten, ed., New York: Free Press, 1986, pp. 239-274. Jerry M. Cooper's, William R. Roberts', and Timothy

Nenninger's articles in *Against All Enemies: Interpretations in American Military History from Colonial Times to Present*, pp. 173-234, are excellent.

4. Warrant and noncommissioned officers are also accorded professional status under the Army's larger institutional umbrella. However, this essay focuses on commissioned officers because of their institutional responsibilities as senior leaders, strategy makers, and agents of change.

5. On the characteristics of military professionalism, see Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations*, Cambridge: Belknap Press, 1957, pp. 7-18; Allan R. Millett, "Military Professionalism and Officership in America," Mershon Center Briefing Paper, Ohio State University, 1975, pp. 2-7; Sam C. Sarkesian and Robert E. Connor, Jr., *The US Military Profession into the 21st Century: War, Peace and Politics*, London: Frank Cass, 1999, pp. 19-30.

6. For further discussions of organizational culture, see Don M. Snider, "An Uninformed Debate on Military Culture," *Orbis*, Winter 1999, pp. 11-26; and Elizabeth Kier, *Imagining War: French and British Military Doctrine Between the Wars*, Princeton: Princeton University Press, 1997, pp. 27-32.

7. Other useful insights on military culture include Williamson Murray, "Does Military Culture Matter?" *Orbis*, Winter 1999, pp. 27-42, and *idem*, "Military Culture Does Matter," *Strategic Review*, Spring 1999, pp. 32-40; John Hillen, "Must U.S. Military Culture Reform?" *Orbis*, Winter 1999, pp. 43-67.

8. Sir John Hackett, *The Profession of Arms*, New York: MacMillan, 1983, p. 202.

9. On the factors that influence strategy making and the development of a strategic culture, see Williamson Murray, MacGregor Knox, and Alvin Bernstein, eds., *The Making of Strategy: Rulers, States, and War*, Cambridge: Cambridge University Press, 1994, pp. 1-23; Colin S. Gray, *Modern Strategy*, Oxford: Oxford University Press, 1999, pp. 129-151.

10. The military provisions of the Constitution of the United States of America are in the Preamble, Article I, Section 8, and Article II, Section 2.

11. On these points, see Allan R. Millett and Peter Maslowski, *For the Common Defense: A Military History of the United States*, New York: Free Press, 1984, especially Chapters 1-4; Robert E. Osgood, "The American Approach to War," in *US National Security: A Framework for Analysis*, Daniel J. Kaufman, et al., eds., Lexington, MA: D. C. Heath, 1985, pp. 91-106; Thomas S. Langston, "The Civilian Side of Military Culture," *Parameters*, Autumn 2000, pp. 21-29.

12. On these and other assumptions that underpin the American Way of War, see Russell F. Weigley, *The American Way of War*, Bloomington: Indiana University Press, 1973, F.G. Hoffman, *Decisive Force: The New American Way of War*, Westport, CT: Praeger, 1996, especially pp. 1-18, 99-133; John Shy, "American Military Experience: History and Learning," *Journal of Interdisciplinary History*, Vol. 1, 1971, pp. 205-228.

13. In his sociological study of military professionalism, Morris Janowitz distinguished between absolutists and pragmatists. Absolutists are those officers who prefer total victory and minimal civilian interference in matters relating to war. Pragmatists are more concerned with measured application of force and its political outcomes. See Morris Janowitz, *The Professional Soldier: A Social and Political Portrait*, New York: Free Press, 1970, pp. 264-279, 305-320.

14. For an insightful analysis of the impact of total war and the nuclear age on American military professionalism, see Andrew Bacevich, "The Use of Force in Our Time," *Wilson Quarterly*, Winter 1995, pp. 51-63.

15. See James Kitfield, *Prodigal Soldiers: How the Generation of Officers Born of Vietnam Revolutionized the American Style of War*, Washington: Brassey's, 1995.

16. Andrew Bacevich, "New Rules: Modern War and Military Professionalism," *Parameters*, December 1990, p. 14.

17. For a discussion of the fusionist model of officer professionalism, see Huntington, *The Soldier and State*, pp. 350-354, 430, 459-460; Janowitz, *The Professional Soldier*, especially pp. 417-442; Amos A. Jordan, William J. Taylor, and Lawrence J. Korb, *American National Security: Policy and Process*, 3d ed., Baltimore: Johns Hopkins Press, 1989, pp. 173-178.

18. Distribution of "values" cards and institutionalization of quarterly Consideration of Others classes are two examples of the

Army's indoctrination efforts to make the command climate more inclusive and instill character in its membership.

19. For various descriptions of post-modern culture and its juxtaposition with military culture, see Charles C. Moskos, John A. Williams, and David R. Segal, *The Post-modern Military: Armed Forces After the Cold War*, New York: Oxford University Press, 2000; Stephanie Gutmann, *The Kinder, Gentler Military: Can America's Gender-Neutral Fighting Forces Still Win Wars?* New York: Scribner, 2000; Leonard Wong, *Generations Apart: Xers and Boomers in the Officer Corps*, Carlisle, PA: Strategic Studies Institute, 2000; Thomas S. Langston, "The Civilian Side of Military Culture," *Parameters*, No. 30, Autumn 2000, pp. 21-29; and Don M. Snider, "An Uninformed Debate on Military Culture," *Orbis*, Winter 1999, pp. 11-26; and "America's Post-modern Military," *World Policy Journal*, Spring 2000, pp. 47-54.

20. For a brief sampling of views on the RMA, see Clifford J. Rogers ed., *The Military Revolution Debate*, Boulder: Westview Press, 1995; Andrew Krepinevich, "Cavalry to Computer: The Pattern of Military Revolutions," *The National Interest*, Fall 1994, pp. 30-42; Eliot A. Cohen, "Come the Revolution," *National Review*, Vol. 47, No. 14, July 31, 1995; and "A Revolution in Warfare," *Foreign Affairs*, Vol. 75, No. 2, March/April 1996, pp. 37-54; Joseph Nye and William Owens, "America's Information Edge," *Foreign Affairs*, Vol. 75, No. 2, March/April 1996, pp. 21-36; A. J. Bacevich, "Preserving the Well-bred Horse," *The National Interest*, Fall 94, pp. 23-40; and *The Dynamics of Military Revolution, 1300-2050*, MacGregor Knox and Williamson Murray, eds., Cambridge: Cambridge University Press, 2001, especially chapters 1 and 9.

21. On various aspects of warfare described below, see Major General Robert H. Scales, Jr., *Future Warfare Anthology*, Carlisle, PA: Strategic Studies Institute, 1999. Also see Steven Metz, "The American Army in the 21st Century," *Strategic Review*, Fall 1999, pp. 12-17.

22. Thomas G. Mahnken, "War and Culture in the Information Age," *Strategic Review*, Winter 2000, p. 41.

23. At this writing the controversial advertising campaign has just begun. On its meaning, intended audience, and reasons for controversy, see Jane McHugh, "An Army of One: Soldiers Hate It, Teens Like It, What's Next?" and *idem*, "It's Working: 'Army of One' is Getting Attention from Target Group"; and Matthew Cox, "PlayStation Generation 'Gets' New Slogan," *Army Times*, February 5, 2001, pp. 14-16, 18.

24. Vietnam has produced an enormous body of literature from both military and civilian writers. This includes the writings of many key decisionmakers. However, the Army shifted its institutional focus after the war from counterinsurgency operations and search and destroy missions to conventional war scenarios with the Soviet Union. Other than Harry G. Summers, Jr.'s *On Strategy: A Critical Analysis of the Vietnam*, Novato, CA: Presidio, 1982, written for the Strategic Studies Institute at the U.S. Army War College, the Army as an institution quickly abandoned serious study of the war. The war deserves much more critical study within the officer corps for two reasons: first, because of its enormous cultural impact on the profession even today; and second, it provides potential opponents with a model to wage a successful war against a first class, high-tech power. The following paragraph will explore this thought further. For other important critiques of the Army in Vietnam, see Andrew Krepevech, *The Army in Vietnam*, Baltimore: Johns Hopkins University Press, 1986; and Sam C. Sarkesian, *Beyond the Battlefield: The New Military Professionalism*, New York: Pergamon Press, 1981, pp. 75-111.

25. On the real dangers and difficulties for the Western powers to fight irregular warfare in the locations listed, see Anatol Lieven, "Nasty Little Wars," *The National Interest*, Winter 2000/0, pp. 65-76.

26. The difficulty of assessing the overall nature of the war and developing effective counter-strategies is a recurrent theme of the conflict. The Objective Force will likely face opponents who will fight both symmetrically and asymmetrically as the situation dictates, just as the North Vietnamese and Viet Cong did. For brief recounting on the difficulties of developing counter-strategies and fighting in Vietnam's complex environment, see George V. Herring, "American Strategy in Vietnam: The Postwar Debate," *Military Affairs*, No. 46, April 1982, pp. 57-63; Lieutenant General Philip B. Davidson, *Vietnam at War: The History 1946-1975*, Novato, CA: Presidio, 1988, pp. 333-369, 387-424. Also see Carnes Lord, "American Strategic Culture in Small Wars," *Small Wars and Insurgencies*, Vol. 3, No. 3, Winter 1992, pp. 205-216.

27. This term refers to the range of operations—offense, defense, stability, and support—the Army performs in war, smaller scale contingencies, or peacetime engagement environments. See U.S. Army Command and General Staff College, Student Text 3.0 Operations, Leavenworth, KS: U.S. Army Command and General Staff College, 2000, pp. 1-14 to 1-17.

28. The White House, *National Security Strategy of the United States*, Washington DC: U.S. Government Printing Office, 1991.

29. William J. Clinton, *National Security Strategy of Engagement and Enlargement*, Washington DC: U.S. Government Printing Office, 1993.

30. See, for example, Gregory D. Foster, "The Effect of Deterrence on the Fighting Ethic," *Armed Forces and Society*, Vol. 10, No. 2, Winter 1984, pp. 276-292; David R. Segal and Barbara Foley Meeker, "Peacekeeping, Warfighting, and Professionalism: Attitude, Organization and Change Among Combat Soldiers on Constabulary Duty," *Journal of Political and Military Sociology*, No. 13, Fall 1985, pp. 167-181; David R. Segal and Ronald B. Tiggler, "Attitudes of Citizen-Soldiers Toward Military Missions in the Post-Cold War World," *Armed Forces and Society*, Vol. 23, No. 3, Spring 1997, pp. 373-390; David R. Segal, Brian J. Reed, and David E. Rohall, "Constabulary Attitudes of National Guard and Regular Soldiers in the U.S. Army," *Armed Forces and Society*, Vol. 24, No. 4, Summer 1998, pp. 535-548; and Volker C. Franke, "Warriors for Peace: The Next Generation of US Military Leaders," *Armed Forces and Society*, Vol. 24, No. 1, Fall 1997, pp. 33-57.

31. Unnamed officer quoted in Don M. Snider, John A. Nagl, and Tony Pfaff, *Army Professionalism, The Military Ethic, and Officership in the 21st Century*, Carlisle, PA: Strategic Studies Institute, 1999, p. 1.

32. While debating Bosnia policy, then U.S. Ambassador to the United Nations Madeleine Albright asked "what was the point in having this superb military that you're always talking about if we can't use it?" On the exchange, see Colin L. Powell with Joseph E. Persico, *My American Journey*, New York: Random House, 1995, pp. 576-577.

33. Dana Priest, "A Four Star Foreign Policy?" *Washington Post*, September 28, 2000, p. A1; "An Engagement in 10 Time Zones," *Washington Post*, September 29, 2000, p. A1; and "Standing Up to State and Congress," *Washington Post*, September 30, 2000, p. A1.

34. See Forrest C. Pogue, "George C. Marshall on Civil Relations in the United States," in *The United States Military Under the Constitution of the United States, 1789-1989*, Richard H. Kohn, ed., New York: New York University, 1991, pp. 193-222.

35. Huntington, *The Soldier and the State*, pp. 345-373; Allan R. Millett and Peter Maslowski, *For the Common Defense: A Military History of the United States of America*, New York: Free Press, 1984, Chapters 15-17.

36. Richard H. Kohn, "Out of Control: The Crisis in Civil-Military Relations," *The National Interest*, Spring 1994, pp. 3-17.

37. Michael R. Gordon, "Powell Delivers a Resounding No On Using Military Force in Bosnia," *New York Times*, September 28, 1992, pp. A1, A5; General Colin L. Powell, "Why Generals Get Nervous," *New York Times*, October 8, 1992, pp. A 35, A47.

38. Editor, "Our 'No Can Do' Military," *New York Times*, October 4, 1992, A4; Russell F. Weigley, "The American Military and the Principle of Civilian Control from McClellan to Powell," *The Journal of Military History* Special Issue, No. 57, October 1993, pp. 27-58.

39. Kohn, "Out of Control: The Crisis in Civil-Military Relations," p. 3. For more on the civil-military crisis, see Colin Powell, John Lehman, William Odom, Samuel Huntington, and Richard Kohn, "An Exchange on Civil-Military Relations," *The National Interest*, Summer 1994, pp. 23-31; Thomas E. Ricks, "Is American Professionalism Declining?" *Proceedings*, July 1998, pp. 26-29; William Pfaff, "The Praetorian Guard," *The National Interest*, Winter 2000/01, pp. 57-64; A. J. Bacevich, "Civilian Control: A Useful Fiction?" *Joint Forces Quarterly*, Autumn/Winter 1994-95, pp. 76-79; Mackubin T. Owens, "Civilian Control: A National Crisis?" *Joint Forces Quarterly*, Autumn/Winter 1994-95, pp. 80-83.

40. This also provided a mechanism for civilian oversight of the military. Carl Von Clausewitz, *On War*, Michael Howard and Peter Paret, eds., Princeton: Princeton University Press, 1986, pp. 609-610.

41. For perspectives on the role and training of military strategists, see General John R. Galvin, "What's the Matter with Being a Strategist?" *Parameters*, March 1989, pp. 2-10; Major General Gerald P. Stadler, "A Shortage of Strategists," *Army History*, No. 16, Fall 1990, pp. 1, 3.

42. Maxwell Taylor, quoted in Jordan, *et al.*, *American National Security*, p. 175.

43. *Military Effectiveness*, Volume I, Allan R. Millett and Williamson Murray, eds., Boston: Allen & Unwin, 1988, pp. 4-6.

44. For a discussion of the terms and concepts, see Sam Sarkesian, "The US Military Must Find Its Voice," *Orbis*, Summer 1998, pp. 423-435; Sam Sarkesian and Robert E. Connor, Jr., *The US Military Profession into the 21st Century*, pp. 159-169.

45. Clausewitz, *On War*, pp. 99-100; 731-732.

46. Colin Powell, quoted in Bob Woodward, *The Commanders*, New York: Simon and Schuster, 1991, p. 155.

47. Peter D. Feaver and Richard H. Kohn, "The Gap: Soldiers, Civilians and their Mutual Misunderstandings," *The National Interest*, Fall 2000, pp. 34, 36. For further discussion of civil-military issues, see Eliot Cohen, "Why the Gap Matters," *The National Interest*, Fall 2000, pp. 38-48; and Edward N. Luttwak, "From Vietnam to Desert Fox: Civil-Military Relations in Modern Democracies," *Survival*, Vol. 41, No. 1, Spring 1999, pp. 99-112.

48. Douglas MacArthur to Massachusetts legislature, quoted in Sir John Hackett, "The Military in the Service of the State," in *War, Morality, and the Military Profession*, 2nd edition, Malham M. Wakin, ed., Boulder: Westview Press, 1986, pp. 114-115. Roy K. Flint, "The Truman-MacArthur Conflict: Dilemmas in Civil-Military Relations in the Nuclear Age," *The United States Military Under the Constitution of the United States*, pp. 223-267, is excellent on the related issues. For a brief but excellent discussion of the ethical issues discussed below, see Paul Christopher, "Unjust War and Moral Obligation: What Should Officers Do?" *Parameters*, Autumn 1995, pp. 4-8.

49. Millett and Maslowski, *For the Common Defense*, pp. 83-84.

50. Feaver and Kohn, "The Gap," pp. 36-37.

51. For example, civilian defense intellectuals developed deterrence and limited war theory to define the use of military force in the nuclear age. Subsequently, civilian policymakers applied these concepts to conventional warfare scenarios, such as limited war in Vietnam. One is hard-pressed to think of an active duty Army officer who is widely regarded in the policy arena as a military theorist or strategist. The officer corps has done a better job in formulating operational and tactical doctrine, admittedly its forte. The officer corps needs to devote as much intellectual energy in developing new strategic concepts and operational doctrine for the emerging century as it did when it worked out Air Land Battle doctrine in the 1970s and 1980s. See Weigley, *The American Way of War*, pp. 399-477; John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982*, Fort Monroe, VA: TRADOC, 1984.

52. On the importance of instructor assignments to the intellectual development of the officers corps and for ideas on future PME, see *Military Innovation in the Interwar Period*, Williamson Murray and Allan R. Millett, eds., Cambridge: Cambridge University Press, 1996; Williamson Murray, "Clausewitz Out, Computers In Military Culture

and Technological Hubris," *The National Interest*, No. 48, Summer 1997, pp. 57-64; Leonard D. Holder, Jr., and Williamson Murray, "Prospects for Military Education," *Joint Forces Quarterly*, Spring 1998, pp. 81-90.

53. On the value of civilian graduate school, see Sarkesian, *Beyond the Battlefield*, pp. 164-193; Richard H. Kohn, "An Officer Corps for the Next Century," *Joint Forces Quarterly*, Spring 1998, pp. 76-80; Robert A. Vitas, "Civilian Graduate Education and the Professional Officer," Available from <http://www.cgsc.army.mil/milrev/English/MayJun99/Vitas.htm>. Internet, accessed November 9, 2000.

54. Prior to 1903 autonomous staff bureaus set policy and administered the Army. Officers often sought out service on a bureau staff because it brought faster promotion and greater prestige. Frustrated by their own lack of control over the institution, the Army's regimental officers resented the power of the bureaus. In the context of this chapter, the staff-line controversy refers to the potential for friction between traditional combat and command-related branch officers and competing career fields, such as information operations, especially if they are accorded equal or greater status without actual service in the field.

55. Stephen Rosen argues that peacetime innovation is possible when "senior officers with traditional credentials . . . create a new promotion pathway for junior officers practicing the new way of warfare." Some of these "new warfare" officers will eventually rise to the top ranks of their institutions. He points to naval aviators and submariners as two examples of this trend. Within the U.S. Army, these pathways are both formal and informal. The creation of the Army's Aviation branch founded on the use of helicopters is an example of a formal career path. Paratrooper duty in one of the airborne divisions created an informal, if recognized, path to higher responsibilities within the Infantry branch during the 1950s. See Stephen Rosen, *Winning the Next War: Innovation and the Modern Military*, Ithaca, NY: Cornell, 1991, p. 127.

56. Department of the Army Pamphlet 360-888, "Commanders Call, Special Issue, The Professional Development of Officers Study," Washington DC: Office of the Secretary of the Army, Public Affairs, May-June 1985, p. 5. For a discussion of the essential attributes of the warrior spirit, see John C. Bahnsen and Robert W. Cone, "Defining the American Warrior Leader," *Parameters*, December 1990, pp. 24-28.

57. Cohen, "Why the Gap Matters," p. 47.

58. General Peter J. Schoomaker, "Special Operations Forces: The Way Ahead," U.S. Special Forces Command, 1999.

59. Armed Forces Staff College, *The Joint Staff Officer's Guide*, Washington DC: U.S. Government Printing Office, 1997. Chapter 6 explains the Joint Operation Planning and Execution System (JOPES).

CHAPTER 3

DISCOVERING THE ARMY'S CORE COMPETENCIES

Frederick S. Rudesheim

In pursuit of its roles in peace and war, the Armed Forces of United States develop and maintain *core military capabilities* that enable their success across the range of military operations. At the highest professional levels, senior leaders develop joint warfighting *core competencies* that are the capstone to American military power (emphasis added).¹

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Perhaps the greatest challenge facing the U.S. Army today is defining why it is transforming and, ultimately, what the transformed Army will look like. The difficulty in determining a direction without a defined destination leads inevitably to the tried-and-true truism that, if you do not know where you're going, then all roads lead "there," and you will never know when you arrived. What, then, is the beacon that can illuminate a direction for the U.S. Army for the near future? Core competencies can serve as the foundation for a transformational process that must achieve and maintain momentum. The Army uses its core competencies to articulate its essential relevance to both the soldiers and civilian leaders. If the core competencies serve to illuminate the direction of transformation, then Army leaders must ensure they have accurately distilled the essence of their service to match not only today's national military requirements but those of the future as well.

This chapter, then, seeks to answer the question, "Have we correctly identified our core competencies to ensure the Army can adequately respond to the national military strategy?" The question, though simple when posited, has various levels of complexity. First, I will sort out the definitional differences between service roles, missions,

functions, and core competencies. This will lead to an examination of the business origins from which one can establish a working definition. Next, I will present the core competencies of each of the services to identify possible points of friction. I will use the Department of Defense (DOD) Directive that enumerates services' functions as a point of departure for comparison. Thirdly, I will tie enduring service competencies to the nature and conduct of war and address specifically what might cause these to change. Finally, I will propose a common definition of core competencies and recommend those enduring Army core competencies to provide the thread of continuity for the Army's focus as it undergoes transformation in the 21st century.

Definitional Distinctions.

As Joint Publication 0-2, *Unified Action Armed Forces (UNAAF)*, indicates, "the 'terms roles, missions, and functions are often used interchangeably, but the distinctions are important."² Roles are the "broad and enduring purposes" for which Congress established the services. Missions are the tasks assigned by the President and his advisors to combatant commanders. Functions are the specific responsibilities that enable the services to fulfill their legally established roles. Therefore, Congress has mandated a review of these roles and missions.

Under the provisions of the Goldwater-Nichols DoD Reorganization Act of 1986, the Chairman, Joint Chiefs of Staff, has specific duties with regard to service-related roles and missions. The Chairman has received the following direction:

Not less than once every three years, or upon the request of the President or the Secretary of Defense, the Chairman shall submit to the Secretary of Defense a report containing such recommendations for changes in the assignment of functions (or roles and missions) to the Armed Forces as the Chairman

considers necessary to achieve maximum effectiveness of the Armed Forces.³

The last such review was in May 1995. The report titled "Directions for Defense, the Roles and Missions Commission of the Armed Forces" offered no recommendations for substantive changes in the operational functions of the Armed Forces. It did, however, recognize examples of "core competencies" that "define the services or agencies essential contributions." These were:

- Air Force: air superiority; global strike/deep attack; air mobility.
- Army: mobile armored warfare; airborne operations; and light infantry operations.
- Navy: carrier-based air-amphibious power projection; sea-based air and missile defense; antisubmarine warfare.
- Marine Corps: amphibious operations; over the beach forced entry operations; maritime prepositioning.
- Coast Guard: humanitarian operations; maritime defense; safety; law-enforcement; environmental protection.

The introduction of this heretofore-unused category of core competencies may well have provided the impetus for the services to adopt and expand on these to define and solidify for civilian leadership their contributions to national defense.

History of Core Competencies.

Core competency represents a business term that found its way into the military's lexicon in the 1990s. The origins of the term trace back to a work published by the business strategist Hiroyuki Itami, in his 1987 work titled *Mobilizing Invisible Assets*. Itami's principal argument was

that “the essence of successful strategy lies in . . . *dynamic strategic fit*,” the match of external and internal factors as well as the content of the strategy itself.⁴ Itami’s “invisible assets,” such as technological know-how or customer loyalty, equated to a firm’s core competencies. Other authors have elaborated on Itami’s *invisible assets*, calling them the *core competencies* of a firm. To develop this concept two authors draw the allusion of a “competency tree”:

The diversified corporation is a large tree. The trunk and major limbs are core products, the smaller branches are business units; the leaves, flowers, and fruit are end products. The root system that provides nourishment, sustenance, and stability is the *core competence*. You can miss the strength of competitors by looking only at the end products in the same way you miss the strength of the tree if you look only at its leaves.⁵ (emphasis added).

Competitive advantage “derives from deeply-rooted abilities which lie behind the products that a firm produces.” These deeply-rooted abilities allow a firm to enter new markets by leveraging what it does best. The hidden (deeply-rooted) and not easily imitated competencies are a business’s underlying source of strength and success. Accordingly, the *secret to success is not the product but the unique set of abilities that allow a firm to create great products*.⁶ Thus, core competencies are the consequence of the “collective learning of the organization, especially how to coordinate diverse production skills and integrate multiple streams of technology.” While a rival might acquire some of the technologies that comprise the core competence, it will find it more difficult to duplicate the pattern of internal coordination and learning.

Others have also developed the notion of core competence. Mahen Tampoe, in his essay “Exploiting the Core Competence of Your Organization,” developed the following extensive checklist to determine whether a competence was really considered “core”:

It must be essential to corporate survival in a short and long-term, invisible to competitors, difficult to imitate, unique to the Corporation, a mix of skills, resources and processes, a capability which the organization can sustain over time, greater than the competence of an individual, essential to the development of core products and eventually to end products, essential to the implementation of the strategic vision of the Corporation, essential to the strategic decisions of the Corporation, marketable and commercially viable, and few in number.⁷

There is much that one can take from this comprehensive list. If correctly identified, core competencies are essential to the strategic vision and decisions of the organization. These works provide a basis for understanding the business theory underpinnings of core competencies, but how do they help in understanding the definitions established by the services?

Before examining the core competencies of each of the services, one must derive a clear understanding of what constitutes a core competency to use as a baseline for comparison. Based on the existing business related definitions and criteria, *core competencies are unique, hard to replicate, and enduring attributes (not products) of the services whose continued existence provides the source of strength, strategic focus and direction to their institutions.*

Core competencies are *unique* and hard to replicate because knowing the "product" does not divulge the "process." Core competencies are *enduring* because they transcend the temporal limitations associated with concepts and technology whose obsolescence the next generation of hardware defines. These competencies provide *strength, strategic focus, and direction* because, regardless of innovation and external threats, they maintain the organization's synchronization with its overarching purpose for being.

Service Core Competencies.

The current U.S. National Military Strategy (dated 1997) states, U.S. “forces must be proficient in their core competencies and able to transition smoothly from a peacetime posture to swift execution of multiple missions across the full spectrum of operation.” With a clear mandate for each service to remain proficient in its core competencies, there exists a logical expectation that each will possess articulated clear, commonly defined core competencies. This is not the case.

One might best begin with the Air Force because, as the youngest service and the first to produce a post-Cold War vision, it has done the best job in staking out its core competencies. DoD Directive 5100.1 (dated September 25, 1987) states that the first of the Air Force’s primary functions is:

To organize, train, equip, and provide forces for the conduct of prompt and sustained combat operations in the air—specifically, forces to defend the United States against air attack in accordance with doctrines established by the JCS, gain and maintain general air supremacy, defeat enemy air forces, conduct space operations, control vital air areas, and established local air superiority except as otherwise assigned herein.⁸

General Ronald R. Fogleman, Air Force Chief of Staff from 1993-1996, addressed core competencies at an Air Force Association symposium conducted in Los Angeles in 1996. He discussed his view of Air Force core competencies and enumerated the following:

- Air and space superiority
- Global attack
- Rapid global mobility
- Precision engagement

- Information superiority
- Agile combat generation

In this unveiling of Air Force core competencies, later elaborated in Air Force Doctrine Document 1 (September 1997), the Air Force chose to add a core competency—global attack. This was a calculated effort to ensure that the Air Force would acquire an expeditionary nature. As Fogleman told his audience, “The primary aspect of global attack is the ability to find an attack target anywhere on the globe using the synergy generated by air and space assets to operate at the strategic level of war.”⁹ The second major aspect of this core competency was the *expeditionary* nature of the Air Force. This the service leveraged from the 1995 Roles and Missions Commission Report that said, “Overseas presence is a core competency of all the services.” This finding softened the Navy’s claim that the aircraft carrier was the instrument of U.S. presence abroad. The Air Force has also been the most successful at linking its core competencies to weapons platforms. Its leaders have provided a direct link from the general core competencies, through the capabilities those competencies enable, to the specific aircraft that provide those capabilities, providing a clear picture of “what you get for your money.”

The Marine Corps has also aggressively articulated its core competencies in support of national strategy. Marine Corps’ *Concept and Issues ’98* states, “The U.S. military’s overall strength as a fighting force is ultimately a function of service competencies—reflecting distinct capabilities, cultures, and traditions.” For the Marines, core competencies are the following:

- Expeditionary Readiness
- Expeditionary Operations
- Forced Entry from the Sea

- Sea Based Operations
- Reserve Integration

The Marines focus on their traditionally accepted role as an *expeditionary* force. With their long history as an expeditionary force, they claim that they are not in the midst of transformation to ensure relevance, but rather *reaffirmation* to ensure viability.

The Army is a relative newcomer to the business of core competencies. The latest draft of Army doctrine Field Manual (FM) 1, *The Army*, defines core competencies as “the essential and enduring capabilities of our service. While they are not necessarily unique to the Army, they define our fundamental contributions to our Nation’s security.”¹⁰ There are seven core competencies according to FM 1, with one of them possessing five supporting competencies. They are as follows:

- Sustained Land Dominance
 - Precision Fires and Maneuver
 - Information Superiority
 - Command and Control of Joint and Multinational Forces
 - Control and Defend Land, People, and Natural Resources
 - Conduct Sustainment Operations
- Prompt Response
- Forcible Entry Operations
- Close With and Destroy Enemy Forces
- Mobilize the Army

- Shape the Security Environment
- Support Civil Authorities

FM 1 also states that core competencies “enable Army forces to carry out any mission, anytime, anywhere in the world,”¹¹ but makes the distinction that “quality people” turn competencies into capabilities. To further confuse the precise intent for selecting core competencies, the latest draft of FM 3-0, *Operations*, states that the Army’s mission essential tasks are the “operational expression” of the Army’s core competencies,¹² and posits that they are actually one in the same. If one were to examine each of these core competencies using the definitional construct provided earlier, one might propose that core competencies are the attributes that span the gap between the nature and conduct of war.

The Nature and Conduct of War.

It is important to draw the distinction between the nature and conduct of war. If the nature of 21st century war will remain essentially unchanged from war throughout history, then there are certain constants one would expect to observe. First, is the Clausewitzian notion that war is a continuation of politics by other means. One would still expect that states would engage in war because of defined political objectives. Second, those who conduct war will continue to confront uncertainty and risk, a combination made even more difficult to discern when combating an intelligent foe. Third, nations prosecute war to achieve conclusive results. Lastly, war will remain in the physical domain of personal and oftentimes brutal destruction.¹³ Conversely, the *conduct* of war will continue to evolve with the introduction of new concepts, technologies, and capabilities. The judicious selection and complementary application of these technologies and capabilities will represent the greatest challenge to Army transformation.

If the nature of war has not changed, then the Army must leverage core competencies as “way points” to navigate the uncharted waters of technological innovation and information operations. The Army must jealously guard its core competencies from the one source that could cause disastrous deviation—itsself. The Army must ensure that what defines its unique contribution to the nation remains viable even in the most turbulent of times. Core competencies are the attributes that span the gap between the nature and conduct of war.

Core competencies are neither predictive in nature nor easily duplicated once identified. Potential adversaries may “go to school” on how the United States *conducts* war, but knowledge of America’s core competencies has little intrinsic value to them. Their value lies in their application by the service they represent. If the distilled essence of the Army is its core competencies, then these can serve as a “sanity check” to ensure that its leaders do not stray from that which they must never compromise. The Army core competencies are a “hedge” on whatever risk it assumes as new techniques and technologies appear. Even when the Army gets a particular direction in innovation wrong, its core competencies will ensure it can respond quickly with the necessary course corrections.

The Army’s Institutional and Operational Core Competencies.

Title 10, DoD Directive 5100.1, *Functions of the Department of Defense and Its Major Components*, and *Joint Vision 2020* mandates roles, missions, and functions for the Services. The Army defines its own service core competencies. The Army’s draft core competencies represent generalized statements, describing the congressionally mandated roles and missions and the functions assigned by the Department of Defense. These *do not* provide the Services with the source for their core competencies. Core competencies should not be a

reiteration or refinement of Service roles, missions, or functions.

The Army, unlike most of civilian organizations, must combine operational experience with institutionally sponsored schooling for the continued education of its leaders. Its officers and noncommissioned officers (NCOs) are “grown” through the combination of experiential maturation (on-the-job-training) and a selection process for schooling to prepare for future assignments of increasing responsibility. There is no opportunity for lateral integration of leadership external to the Army—one must come up through the ranks. Regardless of technological innovations, a leader’s “judgment, creativity, and adaptability in the face of highly dynamic situations will be essential to the success of future joint operations.”¹⁴ *Thus, the development of adaptive, mentally agile leaders is an Army core competency.* The Army develops leaders through a combination of unit level mentorship, leader training at the Combined Arms Training Centers (CTCs), and its professional military education system. This leadership training is an *institutional* Army core competency. It is these leadership attributes, imprinted on Army leaders, and not the leaders themselves, that indicate the existence of a core competency. But does leader development through the military education system meet the definition of core competencies?

One must examine leader development using the various elements of this essay’s definition of core competencies. First, is leader development unique and hard to replicate? Perhaps, at first blush, it is not. After all, when talking about leadership training, one is referring to something that is part of virtually every professional military in the world. However, on reflection, it is not the existence of the training so much as it is the quality and depth of its institutionalization that makes the difference. The Army’s NCOs, in particular, are the envy of most other armies because of their ability to act independently of officer supervision. They do what most armies require of their

junior commissioned officers. There exists a well-established and rigorous process of bringing officers and NCOs back to school based on the merit of their operational performance and demonstrated potential for future responsibility. Many visiting military dignitaries have seen first hand how our professional military education system works. Even with a thorough understanding of the program of instruction (POI) and the screening requirements for students, other militaries cannot easily replicate our military education system. Again, one cannot copy the product simply by identifying its constituent parts. The “secret ingredient” in the U.S. military education system is the soldier, as much a product of the American society as of the Army that trains him or her. The “institutional Army” does not refer to a specific unit or icon, but to the military education system that is both the caretaker and the continuity for the standards and traditions of the service. Paradoxically, it is also the institutional vehicle for generating change.

The Army can generate irreversible momentum for its transformation by using the military education system to produce leaders who know how to think, not what to think. One can make, with some trepidation, the analogy to the business sector. A profit-oriented business grows and remains viable by reapplying and reconfiguring whatever it does best. It can never “rest on its laurels,” lest the competition gain the initiative because of its inactivity. The secret to success is not the product but the unique set of abilities that lead to creation of the product. While the Army is not a profit oriented business, it is the unique set of abilities resident in the military education system that allow for the development and continued growth of Army leaders. These same leaders are the *source of strength, strategic focus and direction for the Army*—further validating the military education system as a core competency.

The ability to produce leaders with the requisite attributes to lead the Army into the 21st century is not, by

itself, the defining aspect of what the Army is and its reason for being. If the products of the military education system are one of the Army's "invisible assets," then the army has only half of what is required, or "the sound of one hand clapping," if that leadership fails to meet the requirements of congressional legislation and DoD directives. The Army's second core competency is operational in nature—the necessary complement to its institutional core competency—to *close with and destroy the enemy*. When called upon, this competency is the active means by which the Army has defended the nation for over 200 years.

As one of the seven proposed Army core competencies, FM 1 (Draft) states, "The ability to close with and destroy the enemy forces, occupy his territory, and control his population removes his will to resist. To close with and destroy the enemy is the ability to terminate conflict on our terms."¹⁵ But is close combat necessary?

The nature of warfare and the essence of land combat have not changed with the beginning of a new millennium. Carl von Clausewitz, in his enduring description of war in the 18th century, argued,

Kind-hearted people might think there was some ingenious way to disarm or defeat an enemy without too much bloodshed, and might imagine that this is the true goal of war. Pleasant as it sounds, it is a fallacy that must be exposed: war is such a dangerous business that the mistakes which come from kindness are the very worst.¹⁶

When called upon, the Army will still have to close with and destroy the enemy even as information-age precision technology offers the allure of long-range, "surgical" engagements.

For those looking for the means to avoid the brutal reality of close combat, there is the illusory hope that somehow, even after armed conflict occurs, the enemy will capitulate because of a well-orchestrated precision munitions campaign. Can one argue that the judicious use

of technological superiority alone will cause the enemy to surrender? One of the Army's leading intellectuals has written:

The enemy quits not because of what has already happened, but because of what he believes might happen if he does not. Fires, whether stand off or close are transient. They have great moral influence, but only for the duration of their existence. Extended range fires can set the terms of close combat, but the enemy quits because he fears the inevitability of defeat. There is no sure way to demonstrate that inevitability than with an overwhelming and imminent threat on the ground. Ground combat veterans and military historians generally agree that instances of defenses to the last man are rare, and attacks to the last man are even more rare. The psychological breaking point is reached as soon as the inevitability of continued resistance is clear.¹⁷

This point is central to understanding the Army's need to maintain proficiency in the one capability it cannot quickly regenerate, if it is unable to take the fight to the enemy. Emerging doctrine has closing with and destroying the enemy as *one of* the Army's core competencies, when, in fact, it is the overarching competency that subsumes *all* of the others. Destruction of enemy forces is certainly not always applicable (or required) across the spectrum of conflict, but it is the one capability that the Army must never allow to atrophy. Because of its ability to grow and train adaptive leaders (the Army's other core competency), the Army can perform virtually any mission assigned. Let us examine each of the other proposed core competencies.

Shape the security environment describes of a key element in the current national security strategy of shape, respond, and prepare. The FM 1 articulation of this competency refers to "providing presence—boots on the ground" to "deter conflict, reassure allies, promote regional stability, encourage democratic institutions, and respond to crises."¹⁸ While certainly an important element of the regional Commanders in Chief's (CINCs) Theater Engagement Plan (TEP), military presence, regardless of

its purpose, is not *per se* a core competency, but rather a basic requirement for the prevention of hostile escalation or the first step in any follow-on actions.

The core competencies, *mobilize the Army, prompt response, and sustained land combat dominance*, derive directly from the primary functions of the Army as found in the DoD Directive 5100.1.¹⁹ As such, these DOD-directed functions, albeit important because of their contribution to closing with and destroying the enemy, do not meet the definitional requirements of a service core competency. These directed functions, necessarily specified by DOD to ensure emphasis and compliance, are, in fact, subordinate to the Army's singular operational core competency—the enduring attribute of closing with and destroying the enemy.

Forcible entry operations, while not stipulated in a DOD directive,²⁰ are a logical requirement for an Army that must project its forces, with the aid of the Air Force and Navy, for employment. Again, the inherent utility of this core competency is in the end a necessary prerequisite for the eventual close fight that the Army must eventually conduct. As with other proposed core competencies, it is an important, but subordinate, consideration to what the Army must always be capable of executing—taking the fight to the enemy *and destroying him*.

Supporting civil authority is a basic, indisputable tenant for all U.S. armed forces. It is the “catch-all” requirement that, within the limits of *posse comitatus*, has the active Army ready to support civilian authority wherever and whenever necessary. The Army enjoys a special relationship with the American people, when it comes to its integrated support with the Reserve and National Guard. These citizen soldiers are a visible reminder to all Americans that the Army is always ready to provide prompt assistance when called upon for support. As with the other proposed competencies, this is an inherent function of the Army rather than a core competency.

Core Competencies and Army Transformation: The Linkage.

The Army's mission, according to its Transformation Campaign Plan, is to transform itself "into a force that is strategically responsive and dominant at every point on the spectrum of operations."²¹ That is a "tall order" for the Army. If the U.S. military is the most studied force in the world,²² then what is it that will keep it from becoming a victim of its own success? Edward Luttwak best summed up the paradoxical logic of a successful military endeavor when he noted, "The reason that something might not work the next time is precisely because it worked the last time."²³ The Army rightly assesses its greatest challenge as follows:

Overall, potential adversaries are basing their investments in military technologies on their perceptions of how the US has historically operated. Those who believe themselves to be threatened by the US are developing adaptive strategies, tactics, and force designs suitable to exploit perceived vulnerabilities and counter or mitigate US strengths.²⁴

The good news is that the Army realizes the importance of this unprecedented period in American history.²⁵ The nation finds itself at the temporal confluence of global leadership, uncertain peace, and ill-defined, but ubiquitous threats. This is the time to transform the Army so that it will not have it "too wrong," when next called upon by the nation's leaders.²⁶ If properly identified, nurtured, and inculcated, the Army's core competencies will provide strategic focus and direction throughout this turbulent period of transformation.

The institutional development of adaptive, mentally agile leaders, coupled with an operational focus on closing with and destroying the enemy, will ensure that transformation maintains the necessary strategic focus and direction. Legacy, Interim, and Objective forces will remain bound together by these two core competencies. If "people are the centerpiece of our formations, and leadership is our

stock in trade,"²⁷ then the linkage between Army leaders and their readiness to execute their most difficult task (enemy destruction) remains paramount in any transformation process.

Conclusions.

Core competencies provide the one true vector that Army transformation must follow. Today, the Army attempts to hedge future uncertainty with a viable transformation plan as a road map for strategic direction. It is incumbent on the Army's leadership to articulate clearly these two core competencies to both its soldiers and the nation's leaders. Unfortunately, this mandate lacks a clear definition of core competencies. As suggested above, FM 1, *The Army* (Prototype Draft), defines core competencies as "essential and enduring capabilities" that "define our fundamental contributions " to the national security.²⁸ A better definition, based on the business origins of the term and vetted in the practical requirements of the military services, would be *unique, hard to replicate, and enduring attributes (not products) of the services, whose continued existence provides the source of strength, strategic focus and direction to their institutions.* Given this definition, two Army core competencies emerge.

Unfortunately, the Army has not correctly identified its core competencies to respond to the national military strategy. The Army should adopt and maintain as its core competencies the developing of *adaptive, mentally agile leaders and closing with and destroying* the enemy. These two competencies encapsulate the two principal lines of its continuity, institutional as well as operational. When synthesized to the essence of the Army's "reason for being," it continues to be about training and educating leaders who are capable of leading soldiers into close combat to destroy the enemy. Core competencies are for the Army's internal consumption—an "azimuth check" for the strategic direction into an uncertain future. The inclusion of other

proposed core competencies only dilutes the strategic focus and direction the Army seeks to achieve. If such so-called competencies are actually “Cliff notes” for civilian leaders to better understand the role of land power, then call them something else.

The Army enters the 21st century with a clear mandate to transform itself to meet the challenging requirements and global responsibilities our nation imposes. The Army must maintain the flexibility to conduct operations along the entire spectrum of conflict, but it must not waiver from its commitment to protect and inculcate these vital competencies. It must either nurture and develop its core competencies or suffer the ignominious fate of having failed the nation and its soldiers, when called to duty. Amidst the promise of today’s opportunities and the uncertainty of tomorrow’s threat lies the Army’s sacred trust—to fight and win the nation’s wars.

ENDNOTES - CHAPTER 3

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20. DOD Directive 5100.1, p. 18. This directive alludes to "provide forces for the occupation of territory abroad."
21. United States Army Transformation Plan, p. 4.
22. *Ibid.*, p. 2.
23. Edward Luttwak, *Strategy: The Logic of War and Peace*, Cambridge, MA: Belknap Press of Harvard University Press, 1987, quoted in Colin Gray, *Modern Strategy*, Oxford: Oxford University Press, 1999, p. 42.
24. United States Army Transformation Plan, p. 7.
25. There is a good argument for comparing this period to the turn of the last century. The army found itself an expeditionary force focused

primarily on small scale contingencies. See LTC David Gray's chapter in this book.

26. Paraphrasing Sir Michael Howard's quote in reference to doctrine.

27. United States Army Transformation Plan, p. 4.

28. Field Manual 1, (Prototype Draft), p. 16.

CHAPTER 4

THE ARMY THROUGH THE LOOKING GLASS

William F. Grimsley

"Who are you?" said the caterpillar. "I-I hardly know, Sir, just at present—at least I know who I was when I got up this morning, but I think I must have changed several times since that." "What do you mean by that?" said the caterpillar, "explain yourself!" "I can't explain myself, I'm afraid, sir," said Alice, "because I'm not myself, you see." "I don't see," said the caterpillar. "I'm afraid I can't put it more clearly," Alice replied very politely, "for I can't understand it myself, and really to be so many sizes in one day is very confusing." "It isn't," said the caterpillar. "Well perhaps you haven't found it so yet," said Alice, "but when you have to turn into a chrysalis, you know, and then after that into a butterfly, I should think it'll feel a bit queer, don't you think so?" "Not a bit," said the caterpillar. "All I know is," said Alice, "it would feel queer to me." "You!" said the caterpillar contemptuously, "who are you?"

Lewis Carroll

Introduction.

In Lewis Carroll's tale, Alice has followed a talking white rabbit with a waistcoat and pocket watch down a hole. They finally come to a stop after a seemingly endless journey. She finds a key, opens a door, and glimpses a beautiful garden, perhaps a place she would like to stay. But Alice cannot make herself fit through the door; she has to resize herself somehow. Her quest to enter the garden leads her through many toils and challenges, like swimming in a pool of her own tears and contact with characters of disorder and chaos. All of her efforts to change herself leave Alice constantly asking the question posed to the caterpillar above: "Who am I?" In the end, Alice makes it into the garden, only to find it not at all what she expected. Disillusioned and angry, she loudly voices her displeasure; startling herself awake to

discover that the whole strange journey had been a dream, and she was safely back on the banks of the stream with her sister; her life again orderly.

Many in the current Army feel much like Alice in her adventures in Wonderland. Taking risks to move from the certain into the uncertain without familiar waypoints is undoubtedly as disconcerting to soldiers, who thrive on order, as it was to Alice. But it may not be her underground adventures that provide the proper allegory for an Army as it seeks to succeed in transformation. If Alice provides us an illustrative reference, it may lie in her later adventures in Carroll's *Through the Looking Glass*. There, Alice also finds conflicting and strange happenings. But there are some not so subtle differences between her underground adventures and those on the other side of the mirror. In the latter, the environment retains some semblance of the ordinary. The world is laid out much like a chessboard. The characters within the world are certainly different, but Alice can still define herself in their terms. In fact, she no longer ponders who she is, but instead seeks to establish herself in relation to the other characters in their world; hence, her desire to be the Queen on the chessboard. When Alice returns from her fantasy world, she possesses a sense that she has realized the lessons of her time beyond and can bring that knowledge with her into maturity.¹

Looking into a mirror provides individuals essentially two images: a reflection of themselves as they currently exist and the background in which they exist. To take this a step further, the standard looking glass provides an objective self-image portrayed in the context of where the object is and has been. For the U.S. Army, this should represent a snapshot in time of a current state that is familiar, explainable, rational: an Army that is powerful, successful, and currently without peer in the world. But as time moves from the present into the future, it may also be circular and perhaps paradoxical to assume that the two-dimensional image and contextual background provided by the "traditional" use of the mirror provides an

accurate assessment of the Army in the future security environments. In other words, that what has worked in the past will continue to work in the future.² Alice certainly found differences when she crossed the mantelpiece “through her looking glass.” As soldiers and their leaders continue on the road to transform their Army into the future force, they must look beyond the reflection with which they are comfortable and into a world like that Alice found when she first crossed into that new place, “and noticed that what could be seen from the old room was quite common and uninteresting, but that all the rest was as different as possible.”³

Background.

The United States emerged victorious from the Cold War and instantly inherited the status as the world’s sole superpower. With this mantle, however, came immediate responsibilities. The first tests, Operations URGENT FURY in Panama and DESERT SHIELD/STORM in the Middle East, provided proof that the conventional forces built and trained to defeat the Soviet Union were more than adequate to do the same to others. But the “others” continued to adapt, in a world that increasingly looked for help and leadership. Missions in Somalia, Haiti, Rwanda, Bosnia-Herzegovina, Macedonia, Kosovo, and elsewhere proved that the United States had the commitment and power to act when called, but with forces and training not ideally suited to the changing nature of conflict.

Clausewitz warns that “the first, the supreme, the most far-reaching act of judgment that the statesman and commander must make is to establish...the kind of war on which they are embarking; neither mistaking it for, nor trying to turn it into something that is alien to its nature.”⁴ Equally important is that the forces chosen to prosecute the war possess the means for successfully accomplishing their mission within acceptable risk. So, if the United States wishes to maintain its position as the sole superpower in the

future, it must continue to develop the military power to deter potential enemies by the threat of force. Moreover, when ordered to fight its military forces must be able to win decisively.

The Secretary of the Army, Louis Caldera, and Chief of Staff of the Army, General Eric K. Shinseki, jointly issued a vision for such a force in October 1999. Its banner slogan, "Soldiers on point for the nation, persuasive in peace ...invincible in war" summed up their view of the Army's role in the post-Cold War world order.⁵ Soldiers will find themselves engaged throughout the world in pursuit of national interests as directed by American political leadership to deter potential enemies. Concurrent with Secretary Caldera and General Shinseki's statement, however, came the recognition that the Army's current force structure would be hard-pressed to support such a vision. Moreover, they recognized that its capabilities would consistently decline into the future. Thus was born the Army Transformation, a three-pronged approach to retain power in the present to meet varied global strategic demands, while simultaneously building a force to meet the demands of the future security environment.

Many would argue that transformation is merely an inevitable extension of the global revolution in military affairs (RMA) brought on by the near simultaneous explosion of information technology and the Soviet Union's demise. There have been consistent and conscientious efforts in the U.S. Army to lead in the application of technology to future combat through measures such as the Force XXI/Advanced Warfighting Experiments. It is certainly true that difficult work continues along this avenue, but this approach is only one portion of transformation. The RMA, if one is really occurring, lies in far more than technology alone. In fact, what transformation demands first of all is a complete and ongoing estimate of the strategic environment and America's strategic ends. An honest evaluation of the steps necessary to achieve the ends must follow with the

determination and formulation of the means to execute those steps successfully. Finally, and perhaps most importantly, the Army must accomplish these goals in concert with the other services. By working the process from the objective backwards, much like planning a tactical attack, the Army's leaders must define those capabilities that provide the potential for success and determine points of risk. This is especially important in an era with finite resources and no clearly definable threat. Thus, the Army must prepare for the future by developing flexible and tailorable capabilities.⁶

Whether there is an ongoing RMA or not remains a debatable point. What is clear, however, is that soldiers are now in an Army in transformation and not simply because Secretary Caldera and General Shinseki said so. The present murky strategic environment and the foreseeable future are the real drivers, and the security of the nation demands nothing less. But change is never easy, especially in a tradition-bound, hierarchical structure like the Army. For real change to occur, soldiers must embrace it and bring it to life. Ground-swell support for the leadership's vision requires the inculcation of the true rationale for transformation. The only method by which the Army can build the conditions of irreversible momentum lies in the Chief's campaign plan: ". . . a rate and scope of change that can survive individual decision-makers and singular discrete decisions...generally perceptions based: therefore it is frequently associated with strategic communications efforts."⁷ Communication, up, down, and laterally, is the key to success for building irreversible momentum.

The leaders and the led must understand the dynamics at work when trying to change the Army. The Army's history provides some excellent examples of how to do it right, and some pitfalls to avoid. The key is to communicate the method of transformation and continue to emphasize the relevance of the need for change. Up to this point, soldiers understand the objective; the leadership has given them a general course of action, and now they must identify

those criteria of success and points of risk that require thoughtful attention. The succeeding pages identify some of the major challenges associated with change and propose some ideas for mitigating risk. There are many methods by which one can make judgments, but one that draws on the experience of past leaders in leading change seems appropriate.

In an article about military innovation in the inter-World War years, Dennis Showalter, a noted military historian, comes to four general conclusions that will be useful in reviewing the current Army's transformation. 1) He suggests that change is contextual, based on the environment in which it operates (How has change been successful in the past?). 2) Military organizations and especially armies have external constraints imposed on them by their societies and governments they serve (What do they want an Army for?). 3) Internal groups or service cultures are essential to successful change (How can one provide the environment for healthy professional debate to achieve the best product without being dragged down?). 4) Military organizations must submit the change to ruthless examination before committing to the next "first battle" (How does one know if course corrections are required?).⁸ Each of these questions could evolve into a book by itself, but the goal of this paper is to provide basic illustrative points of consideration. Hopefully, it can also spark further debate and use by the Army's leaders and soldiers to enhance the Army's transformation into an organization as relevant and dominant in the future as it is today: in other words, to get through the looking glass and beyond and not to remain trapped underground.

Change In Context.

. . . Specific innovations, technical or institutional, are less significant than the creation of a positive synergy among material and doctrine, service cultures and the wider social and political systems to which these cultures belong. The creation of such a synergy, however, is not an end in itself. It is rather, a

sophisticated tool in the hands of reformers whose ultimate responsibility is to enhance the security of the state and the society they serve by changing military institutions to meet the problematical demands of an uncertain future.⁹

The quotation above could easily describe the current challenges faced by the U.S. Army in 2001, but it actually refers to the period between the World Wars. Change remains a constant in history and provides illumination on current discussions bearing on Army transformation. The method of critical analysis outlined by Clausewitz and updated by Eliot Cohen and John Gooch is a proven method to evaluate several critical change periods in the history of the U.S. Army: Discover the facts (what happened?), trace the effects back to their causes (what was or was not done which led to what happened?), and evaluate the means employed (what contributed to the outcome, either by omission or commission?).¹⁰ The potential examples are numerous, but for the purpose of brevity, and clarity as well, this paper focuses on two relatively recent periods that continue to impact our Army today: the post-World War II/Korean War period and the post-Vietnam War period.

Williamson Murray suggests that military innovation can be revolutionary or evolutionary. In the former, the innovation is almost autocratic. Something so radical has happened in technology, or intellectual conception, or the threat that change must occur immediately and with little room for debate. Because of this radical departure from the norm, the results of change afford small margins for error; the leaders either get it very right or very wrong. In evolutionary change, the results are slower in coming, because the innovation requires an organizational focus over sustained periods rather than a top-down declaratory shift. Evolutionary change provides more room for experimentation and course correction enroute, but by virtue of the factor of relatively slow speed, the results are less immediately visible or tangible to others.¹¹ Each can be effective in its own right, largely dependent on the innovation and its implementation.

An example of revolutionary innovation occurred in the U.S. Army with the advent of nuclear weapons. The leaders in 1945 viewed a strategic horizon that should have been fairly clear. There were obvious winners and losers of World War II. The joint and combined weight of the Allies defeated Nazi Germany through conventional application of force from ground, sea and air into military, political, and economic capitulation. But the emergence of a new threat from a former ally, the Soviet Union and its declaratory policy of communist expansionism, deeply muddied the international security environment. In the Pacific Theater, the Allies threatened Japan by land, sea, and air from the combined forces, but ultimately the Japanese surrendered when attacked by unconventional means: the atomic bombs on Hiroshima and Nagasaki. The dramatic technological impact of nuclear weapons opened a phase of history and change in the global security apparatus that was, and is, irrevocable.

The period immediately following Allied victory saw drastic reductions in military forces and budgets as priorities shifted to domestic issues. The security environment remained extraordinarily dangerous, however, as events in Europe, Korea, and Indo-China among others quickly bore out. Carl Builder describes these as "landscape features," which have large commonality with the present security environment. In addition to the enormous technological and political change, the irrevocable shift in global security, and declining military budgets/shifting priorities, he also outlines the factors called "disorientation" and "hanging on." The former alludes to the continued application of prevailing concepts that are no longer applicable to the current situation, but have no obvious replacement. The latter is the military habit of attempting to make what the services have fit, despite obvious changes in the security environment. The Korean War was certainly fought with World War II-style units, equipment, and tactics, while the threat of nuclear weapons kept Europe in its own state of armed truce into the

mid-1950s, supported on the ground by a U.S. Army not equipped or manned to defeat Soviet forces in conventional battle.¹²

So, in the face of declining budgets, reliance on nuclear weapons, and questioning of the relevance of a conventional ground force, the leadership of the Army developed a revolutionary plan for transformation within President Eisenhower's overarching security theme of the "New Look." The Army in the mid-1950s shared some striking similarities to the present successor; difficulties in meeting enlisted retention goals, political debates on the relevance of sustaining a large standing army, and disenchantment with the Army among junior officers leading to the resignation of approximately 132,000 between 1954 and 1956.¹³ This environment, when added to the overwhelming strategic dimension framed by the increasing proliferation and destructive power of nuclear weapons posed a direct challenge to the U.S. Army.

Generals Matthew Ridgway, Maxwell Taylor, and James Gavin, among others, developed a process of change, which resulted in the Pentomic series of organization; building each level of formation blocks of five in order to meet the Army's requirements of dispersion, flexibility, and mobility to provide a multi-functional force to fight across the spectrum of foreseeable conflict. One historian sums up the focus of the revolutionary change in this era by stating that

... A great institution like the Army is always in transition . . . grappling for the first time with the perplexing implications of nuclear warfare; seeking ways of adapting its organization and doctrine to accommodate rapid technological advance; and attempting to square apparently revolutionary change with traditional habits and practical constraints of the military art.¹⁴

This is not to imply that the entire Army was enamored with the Pentomic system or its apparent focus on the seemingly technological solution that nuclear weapons

provided for the security strategy of the day. Much of the criticism of the time, and in history, lies in the Army's apparent reliance on technology to solve the problems that nuclear weapons posed to the continuing relevance of ground forces. There is, however, a strong argument that the leadership of the day took a more holistic view of the importance of ground forces and the need to demonstrate their relevance. The leaders instituted revolutionary innovation first in the doctrine and organization, followed by shifts in training of units and leaders, and then fielded new materiel; a classic use of the model of doctrine, training, leader development, organization, materiel, and soldiers (DTLOMS); or the model by which the Army presently analyzes its ability to meet the nation's strategic requirements. Despite the revolutionary or top-down nature of the innovation of the Pentomic era, there remained a strong exchange of ideas on the specifics of the Army transformation. In 1955-1959 alone, various service journals and magazines published over 130 articles on the doctrine, tactics, techniques, procedures, organizations, training, and materiel requirements of the relevant ground force in the era of nuclear/atomic combat.¹⁵

There was the pressing problem posed by nuclear weapons, but there was also a large Soviet Army ostensibly posed for the invasion of Western Europe. There was also a growing trend toward "smaller" wars on the horizon. This was evident by American involvement in the Korean War and Lebanon along with the French experience in Indochina and the British experience with multiple insurgencies. The message was equally clear: these type wars required trained and ready ground forces with the capability of operating under the principles of dispersion, flexibility, and mobility; albeit without the specter of nuclear weapons. Lieutenant General Gavin described this necessity in 1955 as "forces in being"; units sustaining high levels of combat readiness that are organized, trained, and equipped for immediate deployment and employment across the spectrum of conflict.¹⁶

To apply the critical analysis model to the Pentomic era version of Army transformation may be a bit disingenuous because that Army was never really challenged. Perhaps that is a measure of success in its own right. The vast nuclear arsenal provided the main deterrent capability, but the Army as a supporting player provided other important means; forward deployed tactical formations capable of surviving the nuclear battlefield to occupy ground and defeat other ground forces. By taking a revolutionary step in innovation, the Army retained force structure and resources and therefore provided itself with the means to continue the development and experimentation of other concepts of emerging warfare, such as the airmobile concept and use of unconventional special operations forces. The Pentomic structure was short-lived as an organization and doctrine, but its impact as a means of innovation was enormous. Given the environment of the mid-1950s, the execution of revolutionary innovation was probably the only course of action available to Ridgway and Taylor.

If the Pentomic era offers an example of revolutionary innovation, then a complementary example of evolutionary innovation in the U.S. Army with impressive results lies in the post-Vietnam War era. Certainly the experiences of the war remained with the Army—perhaps remaining with the institution even today. Regardless of any assessment on the tactical outcome of the war, however, the leadership of the Army in the mid-1970s clearly recognized that it confronted a need for change. One military historian describes patterns of innovation in the inter-World War years as driven by four distinct yet interrelated factors; the influence of strategic context, technological change, the military organization as a body politic and its encouragement/discouragement of innovation, and the civil-military relationship with parallel technological and organizational development.¹⁷ These factors were equally applicable to the U.S. Army in 1973.

The Soviet Union remained the threat and nuclear weapons were omnipresent. In addition to their vast nuclear arsenal, however, the Soviets had also continued to

build and modernize conventional capabilities they exported to numerous client states throughout the world. The 1973 Arab-Israeli War was a surrogate showcase for the world on modern conventional combined arms battle using Soviet and U.S. equipment; both sides watched with great interest as the events of the Fall of 1973 unfolded.

The military organization charged with executing analysis of events and innovation for the U.S. Army was the newly formed Training and Doctrine Command (TRADOC) under General William DePuy. The external environment, which provided TRADOC the medium in which to work, as well as the prevailing climate within TRADOC itself, provides the truest model for successful transformation today. The Army leadership provided by General Creighton Abrams established both the organization and its charter to be innovative, but also worked tirelessly to ensure that the required resources would be available to make the necessary innovations feasible. The assurance of force structure, funding, manning, and equipment development/modernization were all key factors for the future success of the Army for which TRADOC was writing doctrine and training programs.

The results of TRADOC's efforts, beginning with the 1976 edition of Field Manual (FM) 100-5, *Operations*, continue to permeate the fabric of the Army today. The manual "... confronted directly the prime strategic problem the Army faced: a U.S. force quantitatively inferior in men and equipment on an armor-dominated European battlefield."¹⁸ Greater than the product itself, however, is the process by which it and other emerging ideas were developed. In a letter to the various Army schools and centers under his command in July 1974, General DePuy provided a concept paper on doctrine and tactics, the precursor to FM 100-5. He likened the concepts to a pot of soup in a French peasant's house; always on the stove available for consumption and open for adding ingredients to make it better.¹⁹ The analogy for evolutionary innovation is clear; one gets a better product when the base is set out for

all to consume and the “cook” encourages useful input from all quarters. It takes longer and may be more inefficient, but given the availability of time and the willingness to accept additional risk in the present, the future product may be considerably better.

The development of FM 100-5 based on the pot of soup principle was much less inclusive than originally intended. Despite the initial consensus for overarching change engendered by initiatives such as the Octoberfest Conference and the maintenance of dialogue between the schools and the field, the Army failed to move in a single united direction. Tensions among many members of the TRADOC community over the purpose and scope of doctrine prevailed. The best example of this lies in the debate between the role and impact of the Combined Arms Center at Fort Leavenworth as an integrating agency for doctrine. Lieutenant General John Cushman, Commandant in the mid-1970s, developed a version of FM 100-5 based on General DePuy’s original concept paper that differed considerably from the TRADOC view. The difference resulted from a difference in philosophy over the nature and purpose of doctrine itself. The Leavenworth school of thought viewed doctrine as a natural result of the Army’s thoughts on war in general as derived from theory as a guide for action, and not tied to specific problems or sets of conditions.

The DePuy/TRADOC school viewed doctrine as a holistic approach to institutional change in support of the most likely events confronting the Army.²⁰ While not mutually exclusive, the two schools differed sufficiently that General Depuy kept the writing and publishing responsibilities for the 1976 FM 100-5 as well as the supporting doctrine and training documents in TRADOC. While this proved efficient, it did not engender universal consensus on content or scope, as subsequently proven by the backlash and debate following publication in mid-1976. As then Major General Starry wrote to General DePuy, “It will not suffice simply to send our training circulars out and trust they will be

acclaimed on the basis of their eminent logic."²¹ Despite the absence of complete acceptance within the Army, the development and publishing of the 1976 FM 100-5 remains a watershed event in the institution's history. As one historian states:

In thus defining doctrine as an issue of central importance to the Army and a key integrating mechanism, DePuy wrought a revolution in post World War II American military thinking. The subsequent editions of FM 100-5 that appeared in 1982 and 1986 were attempts to fill the role first put into practice by General DePuy. In that sense, they were evolutionary, however much they may have differed in substance.²²

Evolutionary innovation was clearly at work in the post-Vietnam war period. The results were not quickly forthcoming, and there were certainly some dark days. But progress was evolutionary; in every component of DTLOMS the Army improved. Further refinements of the doctrine led to the emergence of "AirLand Battle" and "Army of Excellence" initiatives. New studies emerged based on General Starry's vision, now the TRADOC commander, of "concepts-based acquisition," the translation of broad operational concepts into necessary equipment development and acquisition in a streamlined process.²³ Other innovations, such as the Combat Training Centers and the dynamic revitalization of rigorous professional education for junior NCOs and officers were immediate and strong by-products of the revolution sparked by the FM 100-5 initiatives.

Against the factors of critical analysis, the Army never got to test the means on the battlefields of Europe because of the demise of the Soviet Union. Nevertheless, the deterrent factor posed by the Army's conventional ground forces in concert with the combined air, naval, and nuclear power of the nation was enormous. That the Army was able to execute numerous successful operations outside of Europe using the innovations provided by the leaders of this evolutionary era is an additional, if unforeseen, testament

to its enduring quality. The strategic ends of national survival, proliferation of democracy, supporting economic growth, and support of allies were all superbly met by our military.

Both revolutionary and evolutionary innovations are feasible methods of producing real and enduring change; they are not mutually exclusive. The central theme is the establishment of a clear vision or purpose for the change and the translation of that vision into a plan of action; articulated and understood to the lowest levels of the organization. For a large and bureaucratic organization like the Army, it is imperative that change be both led and managed. This requires soldiers, leaders and led, to maintain some key competencies relevant to effective change:

- Management of attention through consistent vision and goals.
- Management of meaning—open communication up, down, and laterally.
- Management of trust—constancy and reliability of the institution and its goals/methods.
- Management of self-sustaining focus and balance.²⁴

Williamson Murray and Barry Watts further elaborate on the environment of effective innovation in peacetime by arguing that a leader's vision must find a balance with operational reality, acceptance by senior leaders, and "change agents" with an open voice, explaining/testing/refining future concepts, and controlling the nature of change and its contingent factors.²⁵ The root of all the discussion on the examples of effective change from history and their application to Army transformation lies in the factors of leadership and communication. These are a central theme of effectiveness in military units or any other organization. Open and honest dialogue on matters of great

importance not only leads to better products, but a sense of inclusion in the process and pride in the end result on the part of the participants.

Why an Army?

Why indeed does the United States have any Army? The Constitution only provides for Congress to raise and support one, not maintain one.²⁶ There is no clear and credible near peer competitor on the global strategic horizon. The United States certainly reigns supreme in air, naval, and nuclear power; and it has repeatedly demonstrated the capability to address threats to national interests by the use of precision guided conventional means without placing an American in harm's way. The Marine Corps, an expeditionary force by organization, forward presence, and tradition, is demonstrably capable of handling the small-scale no short-notice contingencies that continue to be the prevalent requirement for our armed forces, and Marines do so quickly and visibly.

So again the question, why an Army? Because the present strategic environment, and the foreseeable future, dictates the need for a force with unique capabilities for deterrence and fighting on land. This requires the mutual and complementary effects provided by the combined power of air, sea, littoral, land, and space capabilities. The Army's leadership states the purpose clearly:

Soldiers enable America to fulfill its world leadership responsibilities of safeguarding our national interests, preventing global calamity, and making the world a safer place . . . by finding peaceful solutions to the frictions between nation-states, addressing the problems of human suffering, and when required, fighting and winning our Nation's wars—our non-negotiable contract with the American people.²⁷

Given that the above quotation is a straightforward and cogent statement of purpose for the Army, why is there any question as to the need?

The answer lies in the notion of national strategy and the Army's relative and relevant position as an executor of that strategy. In the period since the demise of the Soviet Union and the overwhelming military accomplishments of Desert Storm, there has been a marked increase in the use of the Army in roles other than the one "non-negotiable contract" from the Army vision of 1999. Many view this as a departure from a warrior ethos; that these missions performed superbly by soldiers are "... often praiseworthy, (but) have clearly broadened the myriad tasks that military units must master ... and (have) altered perceptions about the essence of the military profession."²⁸

Whether they are alien or not is basically an irrelevant question, when viewed through the prism of strategic requirements. More bluntly, in an era of constant or even shrinking resources the Army must be a relevant means to achieve the strategic ends it purports to serve or "public discontent with the purposes to which the Army's efforts are applied in time inevitably come to include frustration and discontent with the Army itself."²⁹ Such frustration manifested itself overtly during Vietnam, when protests over government policy inevitably turned to actions against soldiers themselves. More recently, the frustration was evident over decisions to employ the Army in the Balkans in stability and support operations. That frustration coupled with the perceived or real inability to be strategically responsive provides the impetus and necessary catalyst for transformation.

There is also a necessary question of relevance similar to the challenges faced by the Army in the Pentomic era. Instead of nuclear weapons, the Army finds itself currently working to define its relevance relative to the increased reliance on precision munitions and the proliferation of information technology. Granted there may be no near-peer competitor today, but there is no similar assurance for the future. As two authors stated in 1973, when there was still a clear threat from the Soviet Union, "... one cannot prove the need for any particular level of ground forces, but prudence

dictates that we ought to retain one for unknown but probable contingencies which will take place within an uncertain future political context.”³⁰ Certainly then, in an era of increasing uncertainty, there is not only a need for maintaining current U.S. land power strength, but potentially an even greater requirement for powerful and capable ground forces.

Power equals the capability and political will to employ force, even military force, to achieve a stated strategic end. If power serves the capability portion of its purpose correctly, then a prudent potential adversary weighs the cost of challenging the United States before pursuing a military option. If the cost exceeds the gain, military force becomes a sub-optimal course of action and the military therefore serves as a tool of deterrence. Colin S. Gray has expanded on the traditional Clausewitzian definition of strategy to account for the strength of deterrence as follows. “Strategy is the use that is made of force, and *the threat of force* (emphasis added) for the ends of policy.”³¹ The Army as a component of military force must therefore be seen in the world as powerful, as much by capability as by commitment. This is not to suggest that the Army and others be used for the sake of using. But the Army must remain engaged in missions to achieve strategic ends in pursuit of national interests, and can only do so if it remains powerful and capable. As Dr. William Perry stated in his address at the inauguration of the Paul H. Nitze award in 1994,

I believe we can participate in creating the best kind of world tomorrow if we take the approach that made Paul (Nitze) a titan of strategic thinking—realism, pragmatism, hedging against uncertain outcomes, but not being afraid to try to influence outcomes in a positive direction.³²

Exerting influence globally implies the need for a range of Army capabilities beyond those successfully designed and built for meeting and defeating the Soviet Union in Europe; capabilities that stood the test of combat and remain a powerful force today. But as recent missions have

demonstrated, that organization may not be suited for current or emerging missions. The assumption that the current U.S. strategy of global engagement remains valid for the foreseeable future necessitates a change in every aspect of the DTLOMS model. Army transformation is therefore an important component, but it will only be ultimately effective if the entire armed forces evolve as well “into a strategically relevant force or (risk) perpetuating the status quo at high cost.”³³ Power implies capability, but there still must be the means and will to use it.

So, what does the nation really want an Army for? There is in fact the need for an Army that is enormously powerful, that provides a wide range of capabilities to enact the strategy of the nation by deterrence first, and overwhelming decisive force when required. This implies that the Army will remain busy and visible, perhaps in operational or training missions that must relate to its non-negotiable contract of fighting and winning the nation’s wars, or perhaps in support missions that assure regional stability in troubled parts of the world. But it is that tangible demonstration of power by the Army in every dimension that provides deterrence and the ability to influence the actions of potential adversaries before we have to fight. But, when called to fight, the Army retains the means to achieve the strategic ends as directed by policy. War will occur again at some indeterminate point in the future against an opponent not yet identified, in political conditions that are unpredictable, and in an arena of violence and brutality which cannot be replicated beforehand.³⁴ The message in this is obvious: the Army had better prepare now and stay ready into the future.

The requirement for transformation is clear, and it is up to the Army in the field to embrace the tenets of it and provide honest feedback on its effectiveness to the leadership. The Army cannot accept the status quo as good enough, nor can it blindly assume that every aspect of transformation as planned will be perfect or smooth. There are now and into the future, just as there were in the past,

great ideas that will result from trying new avenues and approaches. It is up to the Army to remain committed and engaged in the process and open to dialogue to improve the end product. One cannot predict today what 2025 will look like in terms of threats, the geo-strategic climate, or even the available technologies, but the Army must get on with the process and evolve as an entity. Much like natural selection, those that do not adapt to their environment and become stronger and relevant will become extinct.

Military Culture.

It may be oxymoronic to place military and culture in the same phrase, much as the old joke about military intelligence. Culture in this sense, however, is an important component to the implementation of innovation. To drive this discussion, this paper uses the definition of culture as

... the prevailing values, philosophies, customs, traditions, and structures that collectively over time, have created shared individual expectations within the institution about appropriate attitudes, personal beliefs, and behaviors.³⁵

Much of the point of culture lies rooted in the previous section on why the nation needs an Army. The point of the Army's existence directly relates to national security and survival. It is a not so subtle difference, however, that those inside the organization often define themselves differently from those outside. In her trip underground, Alice tried to retain her form and position relative to the absurdity around her in order to fit, but was only ultimately successful in gaining entrance to the garden, not in influencing any change to the environment. In her trip through the looking glass, however, Alice adapted her character to the environment and worked diligently to assume the role of the chess Queen, arguably the most adaptive and powerful piece on the board.

The Army's culture by nature remains rooted in the order and hierarchy inherent in the structure of the

military. It thrives on order and expects that the organization can maintain itself under the most intense of pressure. It is by virtue of this reliance on order and discipline that an effective military can withstand the rigor of war, the most extreme of human experiences. It may also be because of this culture that military organizations are often so resistant to change. They want to be like Alice, and take on the characteristics of the chess Queen, but getting there often requires a leap of faith into the unknown that can be painful and disruptive to the natural state of order.

Eliot Cohen and John Gooch, in their work, *Military Misfortunes, The Anatomy of Failure in War*, outline this inherent rigidity as failures to learn, anticipate, or adapt. Individually, each is a simple failure that is recoverable, but collectively the failures can result in catastrophe.³⁶ It is therefore an equally important point of transformation, that the culture of the military must evolve to learn, anticipate, and adapt to the ever-changing strategic environment without discarding the tenets in which it is grounded: not in the specifics of how the military achieves its strategic purposes, but why.³⁷

Soldiers have a natural bias for action and a pragmatic approach to getting the job done quickly and decisively.³⁸ That is the military hallmark and the reason they are often the organization of choice in difficult situations outside the normal scope of operations. Humanitarian assistance in Hurricane Andrew in Florida is such an example. This "can-do" factor may be desirable when ordered to execution of a mission, but perhaps not when attempting the overhaul of the organization itself. The tension inherent in the dynamic of attempting to transform the Army for the future, while maintaining readiness to fight rests in the earlier discussion of revolutionary versus evolutionary innovation.

To the average soldier, it would appear that the Army's current transformation contains elements of both types of innovation. The Army possesses consistency from the present in the legacy force, some revolutionary innovations

occurring in support of the interim force, and a combination of both in the objective force. The achievement of the revolutionary portion will happen because it is, as the names imply, a legacy from the present and an interim solution for the present and near-term future. The results are also tangible and realizable within relative resource constraints. In this case, the strategic ends dictate the chosen way, and the means are being visibly applied to achieve success.

The objective force faces a different problem. The statement of need appears to imply revolutionary innovation, but the absence of concrete solutions and the reliance on emerging or undeveloped technology necessitates evolutionary innovation. In this case, the strategic ends are less easily defined. Although there is a clear requirement to do something new, it rests more on the desired effects to be gained from employment of a specific force than the specific identity of the threat force itself. The ways and means to achieve the desired strategic ends therefore deserve a healthy skepticism and debate from within the Army and the joint community.

The Army's culture, the notion of service to nation, rooted but not mired in tradition, must remain a constant. The Army as an entity must remain engaged in both the process and the product. Ground swell support for innovation and transformation comes with inclusion in being part of the solution. The organization can only achieve that, however, with a combination of support both from within and outside, and that base of support is currently difficult to discern. This is not a new phenomenon, but "... If history is any guide, sustaining an effective military culture in this time of transformation will require the support of timeless values and adequate resources coupled with an improved capacity for rapid adaptation to changing circumstances."³⁹

So, how does the Army achieve something this enormous within the confines of the ambiguous strategic environment

and its inherently hierarchical military structure? Again, it is wise to fall back on history; not to rely on what solution has worked in the past, but as a framework on which to build the future. If past military misfortune has resulted from failures to learn, anticipate, adapt, or a combination thereof, then the Army must therefore learn, anticipate and/or adapt.

Learning requires that “. . . military organizations should inculcate in their members a relentless empiricism, a disdain for a priori theorizing if they are to succeed.” Anticipation is maintaining focus on the external strategic environment and “. . . think(ing) hard and realistically about the politico-military conditions under which it (war) will occur.” Adaptation is mostly about the initiative of subordinates to meet the challenges of the future under the overarching intent and the underwriting of mistakes by the Army’s senior leadership.⁴⁰ Whether using the Army’s extensive professional military education system, the Army in the field, the battle laboratories, contractors, publications, or any other means, transformation requires that each soldier buy into the importance of the national security requirement. The revolutionary aspects of streamlining equipment acquisition and ensuring the resources are available to execute transformation are the responsibility of the Army’s senior leaders and Congress. The evolutionary aspect is the responsibility of all soldiers, and absolutely dictates the intellectual involvement through debate, experimentation, and honest communication.

William Crockett, writing in 1977 on “Introducing Change to a Government Agency,” stated that organizational change does not necessarily guarantee behavioral change; but that the “real power and authority for achieving the spirit envisaged for the change lie with the people themselves...that change must be well-planned, coordinated, and communicated.”⁴¹ What transformation is striving for is a proactive adaptation to the current and emerging strategic environment, but without discarding

those aspects of the culture that define soldiers as the United States Army. Again, not defining themselves so much in how they execute the Army's missions, but by who they are while doing them. Army culture must transcend traditional notions of specific branch or background, and move ahead if the Army wants to be a viable and relevant strategic element of power. Soldiers are like "premiums paid for accident insurance...the likely kinds of mishaps influence the form of protection we buy."⁴² But to continue that analogy, "If we are in a buyer's market, we must serve it, not dictate our terms to it . . . (we must) provide a wide range of capabilities."⁴³ It is up to the Army to build on the strength of the tradition of service the culture provides without resorting to the inherent and sometimes parochial rigidity that it produces.

Experimentation.

. . . in view of all these new conditions and the prospect of many more to come, we should seek to become an adaptive society, detached from allegiances to specific products or procedures which will change; committed instead to engagements in the process of living . . .⁴⁴

Testing or experimenting with transformation may be at once the simplest and most difficult thing to achieve. The Army cannot currently even identify what the objective force looks like, only what its capabilities ought to be. But some things are fairly familiar or on the edge of familiarity. There is an entire community and infrastructure already in the Army devoted to testing and experimentation. At this point in the current environment of innovation, it is significantly more important to discuss the intellectual basis of testing innovations and how to incorporate the results into a higher quality evolutionary product.

Transformation is larger than innovation, however. By definition, transformation is "to change completely or essentially in composition or structure." This could certainly occur accidentally, as a result of external

pressures, or, as in the current Army transformation, executed because of external pressures from the global security environment, coupled with a vision and plan from within. Again, senior leaders must recognize and manage the dynamic balance of external and internal pressures and impart that to soldiers.

There are formal and informal methods by which testing and experimentation must occur for transformation to achieve maximum effectiveness. Within the total armed services, Joint Forces Command in Norfolk has responsibility for joint experimentation with the mission “. . . to lead the transformation of America’s military . . . through an iterative process . . . to explore the most critical war fighting challenges at the operational level . . .” which will be accomplished through a series of exercises such as UNIFIED VISION ‘01 and MILLENNIUM CHALLENGE ‘02.⁴⁵

Within the Army there are numerous tools of formal experimentation designed to execute individual or collective complementary experimentation of future concepts and equipment. This process has been significantly highlighted during the recent and ongoing series of Advanced Warfighting Experiments in support of the digitized Force XXI. Again, TRADOC is the overarching headquarters providing the “strategic and operational overwatch (for) a process of ongoing experimentation coupled with fielding a new force.”⁴⁶ Subordinate organizations and groups Concept Experimentation Programs use the battle laboratories and others to “evaluate and capitalize on emerging technology, material initiatives, and warfighting ideas . . . (and) facilitates experiments to determine the military utility on the potential of an idea to become a DTLOMS solution to a future operational capability.”⁴⁷ The work provided by these organizations will be critical to the testing and ultimate fielding of important new capabilities; especially those revolutionary innovations that are top-down and require more rapid assessment.

In the case of transformation, however, there is a mix of revolutionary and evolutionary innovation at work, and this requires a larger community of “testers” than those charged with that specific requirement. It is necessary to retain those parts of the Army’s culture which define “who” soldiers are, while allowing them the opportunity to explore the “how.” As stated earlier, evolutionary innovation is more inefficient in terms of time, but true transformation requires that the society, in this case soldiers, buy into the process and the product. This is not to imply that the Army will not follow orders, but rather that an inclusive process is more likely to produce better results.

There are numerous studies on corporate innovation. Specific to the subject at hand, however, is the question of how can the Army make course corrections in the transformation that has already begun. Congress will make the same choices, particularly in the allocation of resources to achieve the various components of transformation. It seems an obvious imperative for the success of this endeavor that the Army’s leadership makes the *relevance* of the Army as the decisive land power the consistent theme both within and outside the organization. The Army must speak with a singular voice that the power of the Nation to deter war lies with the ability to project and sustain decisive land power, potentially for a protracted time, in order to achieve strategic results.

The best method to accomplish that objective is for the Army to be a large and inclusive experimental community, one willing to take some risk in the present for a better product in the future. The value of the combat training centers in helping shape the forces that overwhelmingly defeated U.S. enemies in Operations JUST CAUSE and DESERT STORM is but one example of inclusive and evolutionary experimentation. The “society” had a stake in the results and bought into the concept. The training currently being conducted by the Interim Brigade Combat Teams at Fort Lewis is another example of adaptive experimentation by the Army. As demonstrated there and

elsewhere, the technological or linear solution may not produce the best result, thus a return to the notion of DTLOMS as a construct for evaluating a concept and implementing change as required.

Lieutenant Colonel Bryon Greenwald, in his *Land Warfare Paper*, provides some insights into achieving success in military innovation by use of proper timing, continuity for change agents, and consensus in support of that change. Among these, consensus is the most important, and can only be obtained

. . . within the Army using the irrefutable logic of their ideas backed by empirical evidence obtained through realistic, objective trials. Only when the Field Army accepts the benefits of change and believes it has a stake in the modernization will the rank and file tear down the bureaucratic barriers impeding the progress of innovation and support the change.⁴⁸

The Army is not by nature open to change. Soldiers remain deeply rooted in tradition and hierarchy. But the Army also has a tradition of adaptation at the lower tactical level, one that has produced tremendous success over its history. The true value of experimentation with regard to transformation will be the effective combination of these strengths to produce a lasting high-quality product, because in “. . . view of all these new conditions and the prospect of many more to come we should seek to become an adaptive society, detached from allegiances to specific products or procedures which will change; committed instead to engagements in the process of living.”⁴⁹

Conclusions.

The Army, much like the nation, has been following an evolutionary path since its inception. Because of its unique relationship to the society it serves, the Army must be responsive and adaptive to the changing strategic environment. Transformation should be nothing new, just

another step in the evolutionary process. But that does not appear to be the case.

The strategic context drove the innovations of the Pentomic and post-Vietnam war period, just as it is driving the ongoing transformation. What made the historical examples successful was the awareness of the contextual nature of change and the need to play to the strengths, while mitigating risk inherent in weaknesses. The United States is currently in an era of being the sole superpower, with no near-peer military competitor on the horizon. Historically, this should be a point where the nation can afford to assume some risk for the present, while building for the future. There are competing budget demands internally as well, however, and the lack of tangible major military threats makes increasing the defense budget a difficult sell to Congress and the American people. This is neither a new nor unique phenomenon in U.S. history, but one that demands strict attention as it will be the most immediate limiting factor on the Army's ability to achieve transformation.

Numerous theorists, historians, and others who think and debate about the issues of national security argue that the Army's path to the future begins with study of the past. Two examples cited earlier are small but important illustrations of innovation. Those who built the Army from a frontier constabulary into the expeditionary force of World War I; or those who endured the inter-World War years and led the military to victory in World War II provide other extraordinary examples of innovation in the face of small budgets and the primacy of domestic issues. The question for the Army today then lies with understanding how its predecessors accomplished so much and what framework they provided as we look to the future? "Innovation demands officers in the mainstream of their profession, with some prospect of reaching the highest ranks, who have peer respect, and who are willing to take risk. The bureaucratization of innovation—particularly in the

current framework of the U.S. military—guarantees its death.”⁵⁰ There are six pillars to such an appraisal.

1. *Focus efforts within a realistic framework—work from strategic ends backwards.* While the Army is working on a capabilities-based force without a clearly recognizable threat, it must develop each aspect of the DTLOMS against a real opponent with real counter-capabilities. When “fighting” its capabilities, whether in simulation or in force-on-force exercises, the opponent must be skillfully and doggedly fought as well, making every effort possible to defeat U.S. forces being exercised. The exercises fought at the various service schools in the inter-World War years that resulted in the development of products such as Plan Orange, the strategic and operational response to a Japanese threat in the Pacific, are examples of this.

Two other aspects of developing the strategy first are also very important. The first is that, although Army transformation is the subject at hand, no change or innovation will realistically occur without incorporation into an overall joint force transformation. This is equally true in the weapons and support systems the Army develops and procures as in the methods by which they are employed, because “. . . without the consensual support of the officers who must implement joint operations, a coherent view of warfare that cuts across service lines will not emerge.”⁵¹ By jointly developing the best ways to meet the strategic ends, the Army will retain its appropriate position as the world’s dominant land power.

The second aspect, and perhaps the reigning one, is to ensure that the means to implement the ways to achieve the ends are present. That assumes adequate resources are available to provide the means. It requires enormous efforts on the part of the senior military leadership to convey this to the civilian leadership in the executive and legislative branches. It must be a two-pronged statement of fact, however, that is emphasized when discussing means. The first is a needs statement of the required forces in soldiers,

equipment, research, and development. The second is a factual statement of strategic risk that must be understood at the highest levels, if the means are not provided. Only this can accurately convey Army capabilities and limitations in the strategic environment.

2. *Develop and execute realistic operational exercises—do fewer better.* The Army continues to work at a furious pace in pursuit of assigned missions. The operational tempo is high, deployments are many, and the pace shows its strain on units in the field. Being busy is nothing new, nor is it inherently bad. Where tension lies is in the question of busy doing what? There will continue to be requirements for operational and training deployments throughout the world in support of strategic ends. That fact, coupled with training readiness requirements, is what the Army in the field should be doing. As discussed earlier, the power of the Army lies first in the inherent deterrence provided by tangible demonstrations of its land power.

But the value of tactical exercises, as demonstrated at the combat training centers, lies as much in the after-action reviews as in the execution. Having an objective assessment of the strengths and weaknesses of a particular operation, as well as being able to take that assessment as a basis for building a better product through the DTLOMS process, is an enormous strength in the U.S. Army. The same should logically be true of higher-level exercises as well. Doing more exercises, however, does not necessarily connote that they will be better.

To make Army transformation as envisioned by the Army's leaders into a dynamic era of innovation, exercises and testing must become distributed and relevant. As in the post-Vietnam era, participants must feel they are part of the solution; that their efforts are important; and the scope of participation must also increase. Again, the use of the various service schools at all levels provides many of the resources required for exercising concepts and "distilling" results for debate and analysis.

3. *Don't allow results to automatically validate proposals.* Alice made an *a priori* assumption that the only place she would be happy underground was in the garden, the most familiar place. She worked diligently but not intelligently to make herself fit through the door to get there. This is the “self-licking ice cream cone” approach to analyzing results of experiments or exercises: decide what result you want to achieve and then build an event to meet success. This approach, however, does not provide the Army with an accurate assessment of the hypothesis being tested and is therefore flawed. The design of the event is especially important in the testing of innovations in order to derive a true picture of results. This is especially true when evaluating revolutionary innovation because of the top-down nature and the relatively short initiation of its life cycle.

In the Interim and Legacy forces, for example, Army exercises must be careful to realistically identify shortcomings and provide mitigation where possible without jeopardizing soldiers or investments in the Objective forces. This implies a cogent assessment of the risks involved in operational employment of these forces, both strategically for the country and operationally/tactically for the warfighters themselves. It also requires rigorous examination under the most realistic and challenging conditions at every opportunity against an extraordinarily capable opposing force in every dimension. There will be dark days in terms of results, just as there were in the early 1980s at the combat training centers, but the end absolutely justifies the means; just as “Desert Storm” did for the National Training Center. Results must be used as a bottom-up feedback loop within the DTLOMS construct to make the product better.

The Objective force must also be realistically examined against a highly capable and effectively employed opposing force. Because of the heavy reliance on emerging and future technologies in the Objective force, the initial set of exercises will be in simulation. This more evolutionary

innovation approach, however, affords the opportunity to test entirely new concepts, while continuing to develop the necessary materiel in parallel experiments. It is perhaps in this arena that the use of institutions and organizations such as the service schools, working cooperatively with the vast network of civilian organizations devoted to strategy and national security, could assist in producing the best “pot of soup.”

4. *Develop and implement realistic and useful measures of effectiveness.* This relates directly back to the questions of what the nation wants an Army for and how do soldiers define themselves? The first question must lead in a straight line to the National Security and National Military Strategies and therefore must find its answer in the political leadership and people of the United States. There are an infinite number of options in the spectrum of potential conflict, especially when considered in the current strategy of global engagement. The strategic ends, however, dictate that the U.S. Army is today and must remain the dominant land power in the world, if the nation is to retain its position of global superpower.

The second question, therefore, is directly tied to the notion of power. If the Army will find its role as part of the joint team first in deterrence, and then by actual force as required in pursuit of national policy, then self-definition seems to be fairly easy. There will be, however, missions such as those in the Balkans, which seem to divert from either the threat of force or actual force. Nevertheless, those missions are a demonstration of national power because of presence, and perhaps it is in the choice of who executes those missions rather than whether they ought to be executed. The highly visible incorporation of all elements of “The Army,” for example, into the Bosnia and Kosovo rotations, is an important statement of national power.

The Army must apply some strong intellectual and historical thought into self-examination in this era of transformation, if it truly wants to accept the full definition.

The Army must preserve the notion of professionalism, deeply rooted values and traditions of its culture, and adapt itself to the dynamic strategic environment of the current and emerging world. The Army in the late 19th century fighting on the geographical frontiers of the expanding nation could scarcely have conceived that their units would shortly be fighting in the Caribbean, China, and the Philippine Islands by the turn of the century; or in a major European War by 1917. Realistic measures of effectiveness lie therefore in both the why and the how.

5. *Professional education and its institutions are keys to fostering innovation.* This may be a blinding flash of the obvious, but the military schools system provides extraordinary potential for promoting and leading innovation. Especially in the current era of transformation, the Army professional education apparatus should be buzzing with curiosity, debate, and exercise of the concepts surrounding all aspects of the change. Certainly as the process of transformation continues, there should also be an increased use of the education apparatus to test new concepts and provide the opportunity for some reflective thought and active debate on the relevant issues.

An important component of transformation, the process of complete structural change, may be the emergence of the importance of professional education and its influence on actions in the operational force. The value of education is a crucial part of the national culture, but its importance must be equally and obviously evident in the military culture as well. The operational requirements of the force should drive the instructional curriculum of the schools. In other words, tie the education to the realities of the operational environment, as opposed to creating fictitious scenarios or refighting the last war.

6. *Recognize the importance of nonlinear analysis.* Popularized as thinking outside of the box, the notion of nonlinear analysis may at once be the most obvious and yet the most difficult aspect of building and ensuring

irreversible momentum. Most military people by nature seem to be cause and effect thinkers and actors. The Army likes to see reasonably predictable results from its actions. It is ironic, therefore, that the military consists at its core of people, and it is that human interaction that often forces nonlinear results.

The Army must continually evaluate the conceptual basis of transformation and its testing and application against equal or greater opposing concepts in human terms. More simply put, there must be a thinking human interaction in the decision loop of innovation and transformation. Whether it is in the initial and ongoing stage of strategic assessment or the development of concepts to prosecute the strategy, there must be a dynamic and human interaction determining the appropriateness and effectiveness of the product; rather than sheer reliance on technological adequacy. Again, the professional education system must reinforce this interaction, exercise programs must include it in their design, and, most importantly, the senior leadership must sustain it by maintaining a healthy professional dialogue.

Transformation for the Army in 2001 and beyond is of vital strategic importance to the security of the United States. The Army must transform to meet the stated vision of the leadership, to be a viable and relevant component of the joint services team. It must also transform to meet the strategic realities imposed by domestic and international policies, and the capabilities of threats to the national interests of the nation. The Army may not be able to identify the specific person, group, or nation that will choose to employ that capability to threaten the United States, but it must be prepared today and into the future. Sun Tzu argued that the acme of skill was to place oneself in a position of strength, where one did not have to fight; to win by virtue of deterrence through power. The Army must aim at that goal, while remaining prepared to fight and win the nation's wars: the non-negotiable contract.

Building irreversible momentum for ensuring successful transformation requires planning, hard work, and a commitment from the Army. The leadership has established the vision within the national strategy and developed a campaign plan for execution. "Line of Operation 13: Strategic Communications, requires that the Army communicate...to internal and external audiences to inform, educate, and build consensus, garner support, and to acquire the resources for Army Transformation."⁵² It is time for the Army to get through the looking glass of the present, question every assumption and try new things to make itself better; committed to remaining the decisive choice of land power dominance in support of national strategic objectives today and in the future.

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CHAPTER 5

BUILDING IRREVERSIBLE MOMENTUM

Michael D. Formica

We are on track . . . we understood that the first year was about building momentum for transformation and then looking for opportunities to keep building it.

General Erik Shinseki, October 2000¹

In October 2000 General Erik Shinseki, Chief of Staff of the U.S. Army, began his second year of transforming the United States Army. His remarks in an interview with *Armed Forces Journal International* suggest that the Army had achieved success in the first year of that effort. Nevertheless, the second part of the Chief's comments implied a sense of uncertainty as to whether the future would also yield similar successes for his transformation plan. General Shinseki has identified the criticality of building momentum. And, given the political dynamics of a new administration and Congress; a less robust U.S. economy; and barely more than 2 years remaining in his tour as Chief of Staff, the gaining of irreversible momentum is indeed a daunting challenge.

The difficulties involved in implementing change are not new. As Machiavelli wrote in his book, *The Prince*, "It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things."² Change and the how to manage change have confronted men since the beginning of time. In fact, the continuity of change is a constant.³ The catalysts for military transformation generally fall into three sources. These are the emergence of new capabilities that can provide current forces significant improvements or cause them to become obsolete, irrelevant, or at great risk; loss in a war; and political pressures that

require new mission capabilities.⁴ Unfortunately America's, and specifically the Army's, track record of managing change has not been all that good. Charles E. Heller and William A. Stofft, in their edited book, *America's First Battles: 1776-1965*, have evocatively described the Army's inability to adapt in response to changing environments. That failure has had its effect on the Army's preparedness to fight and often resulted in tactical and operational losses. The Army's current transformation effort aims to break the paradigm of past failure. The Chief of Staff's intent is to initiate and manage change so that it occurs in the manner in which the Army prescribes instead of coming as a result of external factors such as a defeat in war.

The Army's Final Draft Transformation Campaign Plan defines the conditions of irreversible momentum as "a rate and scope of change that can survive individual decision makers and singular, discrete decisions." The Army's plan continues that such transformation must rest on perceptions and therefore upon strategic communications efforts. Using this definition, transformation can achieve irreversible momentum only when the whole Army (active, reserve, and civilian), the other services, the administration, the Congress, and the American public become convinced of the need, suitability, and feasibility for that transformation. The purpose of this chapter, then, is to determine the critical elements for irreversible momentum and to propose several recommendations for the Army to achieve that momentum, so that it becomes an intrinsic way of thinking about transformation.

This chapter consists of three sections. The first introduces the reader to current thoughts on managing and succeeding in transformation, offers a template for gaining irreversible momentum, and concludes by comparing this template to historical examples of military transformation. The second section reviews the current status of the Army's transformation plan to the proposed template, and the last

section offers recommendations to assist in achieving irreversible momentum.

THEORIES ON TRANSFORMATION

Organizational.

Influenced by increasingly effective foreign competition and the emergence of information technologies in the late 1970s and 1980s, U.S. business began to regain its competitive advantage.⁵ A multitude of theories, strategies, and techniques of management emerged throughout this period. They sought to describe the steps necessary to achieving an effective organization. These organizational theories are relevant to military institutions because they rest upon the human and institutional dynamics associated with resistance, control, and power present during periods of change or transformation. The following theorists are those most applicable to the military.

Kotter. In his book, *Leading Change*, John P. Kotter, a Professor of Leadership at the Harvard Business School, identified eight steps required to transform an organization. The first is establishing a sense of urgency. Kotter contends that the failure to instill a sense of urgency is the biggest mistake leaders make when trying to transform their organization. Establishing a sense of urgency and eliminating complacency are crucial to gaining the cooperation needed to drive the transformation process.⁶ His second step is to form a powerful guiding coalition. Transformation requires such a force to sustain the process. No individual, regardless of formal or informal power or weak committees, can lead or manage transformation by himself or herself. The magnitude of the task requires a coalition composed of the right people and demands considerable trust and the sharing of common objectives.⁷ The third step is the creation of a vision. That vision performs three tasks: it provides general direction and therefore simplifies the number of decisions a business

needs to make; it motivates people; and it coordinates actions.⁸

Kotter's fourth step is communicating the vision. Communications are essential to ensuring that people within the organization have a common understanding and shared sense of commitment to the future.⁹ The fifth step is empowering others to act on the vision. Effectively empowering subordinates consists of four actions: 1) the removal of structural barriers; 2) the provision of needed training; 3) the alignment of organizational systems to the vision; and 4) dealing with troublesome supervisors.¹⁰ The sixth step for transformation is planning for and creating short-term successes. Short-term successes provide credibility to the transformation effort and help sustain it over the duration. The seventh step lies in consolidating improvements and producing still more change. Organizations must use the credibility afforded by short-term victories to tackle bigger problems within the transformation plan.¹¹ The last step requires institutionalizing new approaches. Here, leaders need to anchor change within the organization's culture to ensure long-term success.¹²

Kotter concludes that there are two fundamental lessons on change. The first is that as change involves numerous, inter-related phases over a sustained period, skipping steps or performing steps out of sequence "creates only an illusion of speed and never produces a satisfying result."¹³ The second lesson is that a critical mistake in any phase can have a devastating impact on transformation by slowing momentum or negating hard won gains.¹⁴

Miles. Robert Miles is an academician and professional consultant who focuses on change and transformation. In his 1997 book, *Leading Corporate Transformation*, he defines the fundamental attributes associated with successful transformation as: 1) the ability to thrive on directed energy; 2) a total system perspective; 3) a comprehensive implementation plan; and 4) a demanding

transformational leader. He describes the leadership tasks that support these attributes: The first is generating energy for transformation.¹⁵ The second is to develop a vision for the future. According to Miles, a vision should 1) identify a purpose and mission for the organization; 2) create an emotional view for the future organizational state; and 3) provide direction to get to the vision state.¹⁶ The third task is to align the organization and culture. The leadership must deliberately orchestrate all of the elements of the organization's total system—strategy, structure, infrastructure, people, culture, and core competencies—in a dynamic alignment as well as facilitate human development and organizational learning that allow forward movement without excessive risk.¹⁷ The last leadership task is the creation of transformation process architecture. That architecture enables the transformation leader to orchestrate the transformation process.¹⁸ Like Kotter, Miles claims that failure in any one of these transformation leadership tasks will result in a failure to transform the organization.¹⁹

Morris and Raben. Kathleen Morris and Charles Raben, professional management consultants, offer a model for change based on 10 years of experience. Their model breaks down into three related areas. The first relates to the problems encountered within transformation—resistance, control, and power. The second area deals with the implications of these problems on the transformation effort—the need to motivate change, the need to manage the transition, and the need to shape the political dynamics of change. The last area consists of the action steps necessary to overcome these problems. Figure 1 illustrates this mode.²⁰

While the fundamentals of these theories apply to military institutions, there are two substantial differences between the military and other institutions that such theories cannot address. The first is what Professor Michael Howard defines as the tension between the military's disciplined adherence to authority required for battlefield

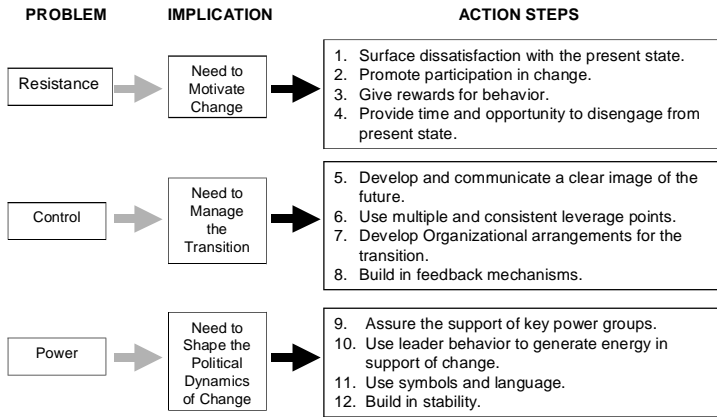


Figure 1. Change Management Model.

performance and the questioning attitude of the skeptic required for successful adaptation.²¹ Because this tension does not exist to the same degree within other institutions, creativity is less likely in military institutions. Williamson Murray contends that the acceptance and the rewarding of imagination and creativity are central to the success of an innovation.²² Murray states, "One of the most important components of successful innovation during the interwar period had to do with the ability of officers to use their imaginations in examining potential innovations."²³ The second difference is the ability to measure the results of the transformation effort. The business world is able to measure the results from their transformation efforts consistently and relatively rapidly. Their metric can be productivity, quality, sales, profit margin, or the value of their stock. Furthermore, this feedback may appear relatively quickly—sometimes within days or weeks. Conversely, the military often does not recognize success or failure from its military innovation until it is involved in

war. As Peter Paret notes, in his forward of Harold Winton's book, *To Change an Army*,

The strategy and operations of any war can be understood only in the light of conditions of the ten or twenty years before its beginning. Technology, organization, doctrine, training, command and staff appointments—all the essentials of action in war—are put in place and developed in peacetime. The testing experience of combat will bring about change, but prewar elements continue to affect many events throughout the longest of conflicts.²⁴

Murray further highlights the difficulty that military institutions face in preparing for a war “. . . that will occur at some indeterminate point in the future against an unidentified opponent, in political conditions that cannot be accurately predicted, and in an arena of brutality and violence which one cannot replicate.”²⁵

Military Theories on Change and Transformation.

Confronted with the peculiar challenges associated with managing change within the military, General Donn A. Starry (1982) and General Gordon Sullivan, along with Colonel Michael Harper (1996), developed their own thoughts on transformation.

Starry. General Starry, former commander of the United States Army Training and Doctrine Command, faced the challenge of developing a doctrine to enable the U.S. Army to confront a larger Soviet land force successfully. In the process he identified seven general requirements for effecting military change:²⁶ First, the military leader or coalition must identify an institution or mechanism to manage change. This newly appointed institution or mechanism must then define the need for change; describe the requirements to effect change; and finally define how the change is different from past practices. The second requirement is to ensure the principal staff and command personalities possess an educational background sufficiently rigorous, demanding, and relevant to establish

a common cultural framework to problem solving. The third is to appoint a spokesman or institution to be the champion for change. The fourth requirement is to build consensus for change that will give the new ideas and the need to adopt them a wider audience of converts and believers. Starry's fifth requirement is continuity of leadership. He contends that continuity is a basic requirement of change so that consistency of effort occurs during the process. The sixth requirement is to gain support from the senior leadership. That leadership must be willing to hear out arguments for change, agree to the need, embrace the new concepts, and become at least a supporter, if not a champion for change. The last requirement for change is to conduct field trials and experiments. The supporters of change must demonstrate the relevance of proposed changes through the use of open, challenging, and realistic experiments. In addition, to sustain the support of the wide audience, the institution must modify the change, based on the results of these experiments.

Sullivan and Harper. General Gordon R. Sullivan, former Chief of Staff of the Army (1991—1995), and Colonel Michael V. Harper, former director of the Army Chief of Staff's Staff Group, list eleven rules for guiding change in their book, *Hope is Not a Method*. They identified these rules as they led the Army through its initial post-Cold War reorganization. First, change is hard work. Leading change requires leaders to do two jobs at once. They must conduct today's operations, while leading the organization into tomorrow.²⁷ Second, leadership begins with values. The leader uses values to signal what will not change within an organization and in so doing provides stability and direction during the uncertain times.²⁸ Third, the intellectual leads the physical. The first step in transformation is intellectual. The leader and his team must expend a great deal of mental effort to build a solid intellectual framework for the future.²⁹ Fourth, real change takes real change. The leader must alter the critical process within the organization, if he wishes to effect true change. Simply working on the

margins—incremental change—will not effect substantive and enduring transformation.³⁰ Fifth, leadership is a team sport. Effective leaders build teams and forge alliances, as teamwork is critical to transformation. Teamwork provides individuals with a sense of responsibility for the organization and thereby creates momentum.³¹ Sixth, surprise is an inherent part of change in the real world. Resiliency and flexibility are critical for the organization to deal with the unexpected and maintain the course throughout transformation.³² Seventh, today competes with tomorrow. The transformation leader must strike a balance between resources—people, funds, time, and energy—to meet today's requirements and those of tomorrow.³³ Eighth, "better" is better. In transformation one cannot define "better" using current qualitative values—better quality, reduced cycle times, shared information, (lethal, mobile, survivable). "Better" may include all these characteristics and more.³⁴ Ninth, focus on the future. The leader must inculcate the organization with a positive, optimistic, and creative vision of the future.³⁵ Tenth, learn from doing. A learning organization—one that learns from doing and sharing information—is critical to transformation. These actions will spark a spirit of innovation and growth within the organization.³⁶ And lastly, grow people. Creative people are what enable organizations to transform. Leaders must understand this and reward creativity among those who step outside the box within the organization.³⁷ What is perplexing to the military is that this "rule" is hard to support, given the tension between adherence to discipline and the questioning attitude required for innovative and creative thought.

A Guiding Template.

Because the human and institutional dynamics associated with resistance, control, and power exist in both the military and other institutions, similarities exist between the theories/models for change. First, the models

identify the need to establish a sense of urgency within the organization. Second, they all also highlight the importance of leadership in successful transformation—more specifically, a coalition of leaders. Third, the models stress the criticality of vision and strategy in transformation. Fourth, they identify the need for open communication to build consensus and support for change. Fifth, excluding Starry, the models identify the need to empower individuals throughout the organization to achieve the vision. And finally, the models stress the need to institutionalize transformation within the organization's culture. Therefore, it appears that a template for gaining irreversible momentum includes these six tasks.

1. Instill a sense of urgency for change.
2. Establish a powerful coalition to guide that change.
3. Develop a vision of the future and a strategy for implementation.
4. Communicate the vision and need for change.
5. Empower individuals within the organization and especially reward imagination and creativity. Empowerment also includes providing people educational experiences sufficiently rigorous, demanding, and relevant to ensure the organization's members possess a common cultural bias toward solving problems.
6. Institutionalize the change within the organization.

German Interwar Innovation.

The history of German and British efforts to innovate during the World War I and World War II interwar years supports this template. The following is an extrapolation of those interwar efforts to innovate using the above template.

1. Establish a sense of urgency. The loss of the war and resulting restrictions of the Versailles Treaty reduced the German Army to less than 100,000 men of whom only 4,000 were officers. The defeat and ensuing sense of vulnerability,

due to the drastic reductions in the Army, were catalysts for German military reform.

2. Establish a powerful coalition to guide the change. Colonel General Hans von Seeckt, commander-in-chief of the army, used the general staff to affect doctrinal and organizational changes in the army.³⁸

3. Develop a vision of the future and a strategy to achieve it. Seeckt developed the vision based on his experience and his exceptional critical intellectual skills.³⁹ He established 57 different committees of general staff officers and subject matter experts to examine the broad and specific questions World War I had raised. The general staff used the results of these studies to develop the basis of German operational doctrine, "Army Regulation 487, Leadership and Battle with Combined Arms."⁴⁰

4. Communicate the vision and need for change. Highly respected by his fellow officers, Seeckt convinced Germany's political leaders and officer corps to adopt his vision and this doctrine as their own. He accomplished this by reorienting and re-educating them towards the doctrines of modern maneuver warfare.⁴¹

5. Empower individuals within the organization. That the German general staff developed such innovative solutions to the problems of modern war was a reflection of the army's strong tradition (culture) of studying war critically and encouraging open debate, creativity, and imagination among the officers.⁴² In addition, the German Army exposed these doctrinal concepts to extensive field tests and trials.

6. Institutionalize the change within the organization. Seeckt institutionalized the change by first encouraging open discussion within the officer corps and then by ensuring continuity of leadership after his retirement. Generals Ludwig Beck, Werner von Fritsch, and Oswald Lutz were all Seeckt protégés and ensured the centrality of maneuver warfare in the army's doctrine.⁴³

British Interwar Innovation.

1. Instill a sense of urgency for change. Initially, as one of the victors of World War I, the British Army failed to see a need to change or even reexamine their doctrine. "Lord Cavan, chief of the Imperial General Staff (C.I.G.S.) from 1922 to 1926 and other senior military men of the immediate post-war years seem to be content with the status quo."⁴⁴ And while attempts to reform the doctrine and mechanize the force were present from the late 1920s to the early 1930s under Lord Milne, the British civilian leadership selected General Archibald Montgomery-Massingberd, who vigorously opposed change.⁴⁵

2. Establish a powerful coalition to guide the change. Since the senior leadership did not perceive a need for or, as in the case of Montgomery-Massingberd, actively oppose change, the British Army did not establish such a coalition.

3. Develop a vision and strategy to achieve change. The British senior officers failed to develop a vision and strategy to achieve it. "With few notable exceptions, the senior officers of the army neither possessed nor articulated a reasonably accurate vision of the nature of future war."⁴⁶

4. Communicate the vision and need for change. Since the British did not develop a vision of war or need to change, they had nothing to communicate.

5. Empower individuals within the organization. British efforts to empower officers were sporadic. The degree of empowerment—open debate, dialogues, and experimentation—present within the army depended on who was the C.I.G.S. Lord Milne fostered such critical ingredients. Conversely Montgomery-Massingberd, his successor, did not. Rather the latter imposed a rigid centralization doctrine on the army; restricted distribution of anything slightly critical of the Army's performance in the last war; and perpetuated the notion that the next conflict would replicate the last.⁴⁷ Nor did the British stress the requirement for rigorous and demanding education of the

officer corps. The British saw soldiering as an agreeable and honorable occupation, rather than a profession that required intellectual dedication equivalent to the medical, legal, and engineering professions.⁴⁸ The British regimental system exacerbated these problems. Senior officers dissuaded junior officers from seeking staff college assignments and those who did attend were seldom intellectually challenged by the curriculum.⁴⁹

6. Institutionalize the change within the organization. There was no institutionalization of change within the army. Two points support this statement: 1) the lack of continuity in senior command positions; and 2) the absence of a coherent combined-arms doctrine.⁵⁰

ARMY TRANSFORMATION—ACTIONS TO DATE

In the words of former Secretary of the Army Louis Caldera, “The amount of momentum that we [Army] have been able to generate for transformation in less than a year is remarkable.”⁵¹ The question, however, remains; are the efforts the Army has expended to gain this momentum consistent with the six tasks needed to gain irreversible momentum? The following is a brief summary of the Army’s actions and a comparison of them to the tasks that an organization should employ to successfully execute a transformation.

Creating A Sense of Urgency.

The Army’s mantra for transforming is that the strategic conditions are present for the United States to transform its Army. A failure to transform now could result in lack of preparedness in the future.⁵² General Shinseki has highlighted this point:

We are attempting to transform ourselves during an unprecedented period—a time of relative peace, of unrivaled economic prosperity and of stampeding technological progress. The conditions are most favorable for our success,

but the window of opportunity may have already begun to close.
[Emphasis added]⁵³

General Shinseki concluded his article by citing the testimony of General George C. Marshall before Congress in 1940, "Yesterday we had time but no money. Today we have money but no time." Marshall's words came shortly after France had fallen in the catastrophic 1940 campaign. Today, as in 1940, the Army's challenges to transform are similar. It must convince an administration, a Congress, and a nation that the Army is a critical component of national defense; that the Army's current superiority is fleeting; and the nation needs to invest now in Army transformation to ensure it remains able to perform its missions.

Establish A Coalition to Guide the Change.

It is difficult to determine the composition of the Army's change coalition. It is clear that General Shinseki, General John Keene, Vice Chief of Staff, and General John Abrams, Commanding General of Training and Doctrine Command are all members of the coalition. And since the new administration seems to support Army transformation, it is reasonable to deduce that the new Secretary of the Army will be a member of the coalition.

Vision and Strategy.

On October 12, 1999, General Shinseki articulated the Army Vision entitled, "Soldiers on point for the Nation . . . Persuasive in Peace, Invincible in War," during the annual Association of United States Army convention. The title of the vision conveys three messages. First, "Soldiers on point for the Nation" sends two messages: the Army consists of soldiers (people) and, like the "point-man" in an infantry squad, the Army is a critical instrument of national policy. The second and third parts of the vision—"Persuasive in Peace" and "Invincible in War"—define the strategic results

and environments in which the Army must operate while "on point." The text of the Army Vision defines three areas, maintaining and caring for people, sustaining the readiness to respond strategically throughout the world, and transforming the Army into a force capable of dominating at every point on the operational spectrum. As General Shinseki stated, the purpose of the vision is to set the direction for the Army to meet the nation's strategic requirements in the 21st century.⁵⁴ The Army's vision provides a general direction, motivates, and coordinates actions. It does not outline the necessity for land power in the current and future world environments or discuss the Army's role within the Joint arena. Yet, both of these are essential to gaining Congressional support.

To achieve this vision, the Army developed its transformation strategy and campaign plan. The strategy emerged in spring 2000 as part of the General Shinseki's testimony to Congress. The strategy consisted of actions along three paths: sustain and recapitalize the Legacy Force (current force), build an Interim Force to meet the needs of small to medium-scale contingencies, and develop an Objective Force to succeed the Legacy and Interim forces.

The Department of Army published the final coordination draft of its campaign plan on November 15, 2000. The plan stated that its purpose was to "translate the vision [Army Vision] from concept to reality."⁵⁵ The Transformation Campaign Plan identified three axis and 14 subordinate actions that the Army must take to accomplish transformation. It also designates responsibility throughout the Army to accomplish these tasks.

One of these major actions has to do with resourcing. The Army estimates its unfunded requirements for transformation to be \$26 billion.⁵⁶ Critical to transformation's success is the Army's ability to convince Congress and administration of its need to fund these requirements. To accomplish this and other communication's tasks, the transformation campaign plan

tasks the Chief's Special Studies Group to develop a strategic communications plan to "Synchronize and coordinate the transformation strategic communications efforts to internal and external audiences to inform, educate and build consensus, to garner support, and to acquire the resources for Army transformation."⁵⁷

However, as of February 28, 2001, The Special Studies Group had not published its communication plan. Regardless of the existence of a plan, the Army has been communicating its vision and the need to transform. General Shinseki and, to a limited extent, other senior officers have presented the vision and transformation strategy throughout the Army and to the Congress. In addition, the Army has published or "sponsored" a number of articles in *Soldier* and *Army* and supported a Public Broadcasting *Frontline* episode entitled, "The Future of War." Lastly, General Shinseki has testified before Congress to gain Congressional support for Army transformation. His efforts netted 1.6 billion dollar in fiscal year 2001.

Based on a review of these actions, it appears that the Army has accomplished or is in the process of accomplishing, three of the six tasks critical to irreversible momentum. It is attempting to instill a sense of urgency for change. It has established a coalition to guide the change. And finally, it has developed a vision of the future. Left uncovered are the tasks for communicating the vision and need for change; empowering those within the organization; and institutionalizing change.

RECOMMENDED ACTIONS

Based on a comparison between the Army's efforts to date and the template of six tasks, there are three tasks the Army needs to perform to gain irreversible momentum for change. These are communicating the vision, empowering individuals within the organization, and institutionalizing

the change within the Army. This section will recommend actions that the Army might use to achieve these tasks.

Communication.

Transformation is impossible unless hundreds of thousands of people are willing to help, often to the point of making short-term sacrifices... Without credible communication, and lots of it, the hearts and minds of the troops are never captured.⁵⁸

Credible communication is critical to successful transformation. In communicating the vision and need for transformation, the Army must build a persuasive argument tailored to each of its diverse audiences. In essence, the Army must build consensus for change—a consensus that will give new ideas and need to adopt them a wider audience of converts and believers.⁵⁹ Again, in the words of the Final Draft of the Army Transformation Campaign Plan, “Develop a communications plan to synchronize and coordinate the transformation strategic communications efforts to internal and external audiences to inform, educate and build consensus, to garner support, and to acquire the resources for Army transformation.”⁶⁰ These audiences include the administration, the Congress, the American people, the Army (active, reserve, and retired soldiers, noncommissioned officers, and officers), and the sister services—the Navy, Air Force, and Marine Corps.

Convincing these audiences is essential to gaining irreversible momentum. As the House Appropriations Defense Panel commented in its mark-up of the FY 2001 Spending Bill,

The committee believes that if this effort is to avoid the fate of previously well intended Army efforts, it will require a sustained level of commitment from the Army, the Secretary of Defense, and Congress, a demonstrated dedication to change and willingness to make tough choices and concerted effort to make this a top DOD priority. The committee also believes that if the defense department and the next

administration does not accord Army transformation the budgeting priority it deserves, it will languish and eventually be homogenized in the traditional Army structure along with many past initiatives, producing only marginal long term effect.⁶¹

To prevent failure, the Army could use four themes. First, the United States currently possesses a window of opportunity to transform the Army under relatively benign terms. This security is the result of two things: the establishment of the Interim Force and the recapitalization of the Legacy Force as envisioned within the transformation plan; and the time it will take for potential enemies to develop the capabilities to challenge the U.S. military power. Unfortunately, as the capability and strength of potential enemies' increases, the utility of the current force will diminish and thereby result in greater risks.

Second, Army transformation provides the nation with an Army that is more strategically, operationally, and tactically mobile than current forces. Third, land power will remain decisive in future wars. While air, sea, and land power can employ the military, economic, and psychological levers of power to affect an enemy's forces, economy, and political will,⁶² land power, as Colin Gray states, "Is the most conclusive, yet also the least exclusive, of the geographically focused branches of conflict."⁶³ He continues, "The inherent strength of land power is that it carries the promise of achieving decision. Whereas dominance at sea, in the air, or in space might enable a war to be won, dominance on land should translate as victory in war as a whole."⁶⁴ Fourth, the Army is inherently linked to the American people through the extensive and essential integration of active and reserve component forces. And as such, it brings with it the critical public support and will needed to prosecute war.

As Michael Howard has stated, "society is at best indifferent and at worst hostile to its [military's] activities."⁶⁵ While this may define the condition in which

the Army must seek public support there are several points the Army must use in stressing its case. First, the history of the United States and its Army remain inextricably linked. A communications plan that addresses the contributions the Army has made to U.S. history, and continues to make on a day-to-day basis would help to raise public awareness of the Army's role. Simultaneously, the Army should communicate the changes occurring in the external world and relate the need for Army transformation to such changes. This might assist in gaining public understanding and support for transformation. Obtaining public support would go far towards gaining Congressional and Administration support as well.

The Army's internal communication plan must perform several tasks. First it must convince the Army of the need for change. Second, it must work to eliminate parochial interests by defining the Army's purpose as institution. Lastly, the Army must maintain open communications across the force. The Army, like society, consists of many subunits and cultures. These cultures (armor, infantry, airborne, mechanized, etc.) each have a view on how the Army should best organize itself to fight. Often these views conflict and internal struggles result. For transformation to occur senior leaders must fight, through strength of logic and will, to gain a consensus.⁶⁶ Consensus and support are critical for transformation to occur. As General Starry stated, "Only when the field Army accepts the benefits of change and believes it has a stake in transformation will the rank and file tear down the bureaucratic barriers impeding the progress of innovation and support the change."⁶⁷

For the Army to succeed, it must use all existing communications channels to open dialogue for transformation.⁶⁸ A recent Army Research Institute survey of 177 Army lieutenant colonels and colonels indicates that the Army's efforts to communicate key aspects of transformation were judged as "good," "very good," or "excellent" by 52 percent of respondents. Conversely, the same survey indicated that 50 percent of the respondents

were uncomfortable or very uncomfortable with the changes, as the Army transforms to the objective force.⁶⁹ This suggests a greater need for dialogue within the Army.

Moreover, the Army must recognize there are sub-units/cultures whose very reason for being appears to be jeopardized by the new vision, e.g., the Armor community. The Army must address these cultures. Pronouncements that the Legacy Force will continue to remain in existence for the next "X-number" of years does not help young lieutenants and captains who see their chances at commanding "relevant" combat-arms forces dissolving with each heavy brigade converted to an Interim Brigade Combat Team or Objective Brigade. If the Army has already thought through this problem, and determined a solution, then it should communicate that solution. Failure to address such concerns may cause these audiences to resist transformation.

There are several reasons that this is a difficult task. One is the services may see the transformed Army as lessening their influence/role in certain mission environments. Another reason is competition for scarce resources. Competition for strategic airlift between the Air Force and Army has increased with the introduction of the Interim Brigade Combat Teams. This competition is because the Air Force needs up to 70 percent of the nation's strategic airlift capacity to support the buildup and sustainment of air operations.⁷⁰ The Army's development of a viable force that depends upon strategic airlift for strategic mobility will compete for that same airlift. Lastly, all the services are operating in a fiscally constrained, if not "zero-sum," environment. This is an environment in which for the past 10 years they have experienced difficulties in sustaining day-to-day operations, procuring replacement weapons systems, and funding research and development of future weapons systems. Given this context, the other services may perceive the cost of transforming the Army as requiring the Department of Defense to increase the Army's funding levels and reduce their funding levels.

To ameliorate this competition the Army must communicate at least three themes to its sister services. First, analysis of current trends indicates potential adversaries will be more creative and adaptive in countering U.S. intervention.⁷¹ The future environment requires an Army which is versatile and adaptive in the manner in which it can achieve its objectives—an Army that can react faster than the enemy. The Army must achieve the joint tactical, operational, and possibly strategic objectives through targeting (fires), maneuver, and/or the securing of terrain in any weather and under any condition—nuclear, biological, and chemical. Second, the Army is not competing with any of the other services for missions. Rather, it must transform to enable the Department of Defense to realize future joint concepts embodied within JV 2020.⁷² Specifically, as part of a joint team the Army must dominate land warfare within the joint campaign. This requires the Army to possess the capabilities to deny sanctuary; dominate all environments; conduct simultaneous or near-simultaneous shaping, decisive, and sustaining operations; and destroy regime-ensuring forces in detail to ensure long lasting decisions.⁷³

Finally, the Army must prepare for sustained operations against an adversary whose principal aim is to prolong the conflict and avoid decision.⁷⁴ As TRADOC's final draft document, "The Foundations of Army Transformation and the Objective Force Concept" states,

... The Objective Force must provide modernized capabilities to dominate land warfare. These capabilities will be employed in the conduct of battles and engagements in shaping and decisive operations nested within the joint campaign. It must possess capabilities to support other components in certain phases of the campaign and to be supported by the interdependent joint force for decisive land operations. It must be strategically responsive to expand the range of military options available to the NCA and the combatant commander as well as to create the conditions for operational and tactical maneuver from the outset of operations. Finally, it must also

be full spectrum capable to not only dominate land warfare but also situations in the military operations other than war.⁷⁵

General Shinseki has set the stage over the past year with the development of a sound vision and concept for transformation. The task is now to build the momentum of internal and external support to sustain the effort. Communications must be a critical part of that process. There are numerous themes that the Army can develop and use in its communications plan. Developing the right themes and presenting them in an appropriate and effective manner is an essential step towards achieving irreversible momentum.

Empower People—Get the Entire Army Involved.

Another critical step in gaining irreversible momentum needs to be involving the entire Army in the process. The Secretary of the Army and the Chief took the first steps towards this with development and communication of the Army vision and transformation plan. The next step is putting into place those mechanisms that foster teamwork and lead to a sense of ownership/ contribution throughout the Army.

As General Sullivan and Colonel Harper point out, teamwork empowers people with a sense of responsibility for the organization and thereby, creates momentum for transformation.⁷⁶ Directly linked to teamwork is inspiring and rewarding creativity. Business and historical examples support the thesis that creative people enable organizations to transform.⁷⁷ Sustaining the creative juices within the organization and gaining the most from their efforts requires the Army to approach transformation as a learning organization—one that learns from doing and sharing information. This is not a difficult task as the Army is a learning organization. After-action reviews are a normal occurrence at all levels within the Army. From combat crews to divisions and corps, the Army aggressively seeks to learn from its successes and failures. Transformation is not

any different. To make it work, though, will require the Army to foster a dialogue throughout the organization about the lessons learned. These actions will further spark a spirit of innovation and growth within the Army.⁷⁸

By providing people the power to act by removing obstacles to their contributing to the vision is crucial. Transformation requires enormous amounts of energy. One of the catalysts to generate this energy is the leader who must model required new behaviors.⁷⁹ In the case of Army transformation, this entails ensuring that senior field grade officers (lieutenant colonel and colonel) and general officers within the Army have joined the coalition for transformation and are actively demonstrating support for it to their subordinates. As Kotter states, "Nothing disempowers people the way a bad boss [supervisor who undercuts change] can."⁸⁰ Again, as the survey conducted by the Army Research Institute indicates, 50 percent of the surveyed population of lieutenant colonels and colonels were not comfortable with the forthcoming changes as the Army moves to the objective force.⁸¹ Aside from communications, there are several other means to gain the support of this critical group. These are ensuring the concept receives the widest possible examination and scrutiny by using a red team concept and conducting thorough field tests and experiments.

Major General (Retired) Edward Atkeson in a recent article in *Army* argued the Army needs to put in place a mechanism to provide early, timely, and pertinent commentary on transformation—a designated devils advocate to examine the concept for flaws before it becomes a done deal.⁸² He further argues,

The Army needs a designated Red Team. It needs a *loyal, supportive* yet independent agency capable of challenging new concepts of organization, operation, and support. Ideally it would not be limited to nay saying but chartered to propose alternatives directly, when necessary to the highest authority of the Army.⁸³ [Emphasis added]

In addition to strengthening the product, a red team would assist in making the senior field grade officers more comfortable with transformation through the use of field trial and experiments.

General Sullivan and Colonel Harper believe the leader should design and use specific activities and events to illustrate and test the new paradigm and thereby encourage those within the organization.⁸⁴ General Starry takes this a bit further by specifying that to test the validity of the proposed change, the tests need to be open to rigorous examination and scrutiny.⁸⁵ General Atkeson uses the Army's High Technology Light Division concept as an example of what happens when an organization does not perform open, objective, and reliable field trials. In this case, because the 9th Infantry Division designed and tested this concept on itself, the Army did not view the results as reliable.⁸⁶ General Atkeson concluded that, although the Army Chief of Staff sponsored the concept, the Army at large regarded the results as suspect and the concept collapsed when the Chief of Staff retired.⁸⁷ While TRADOC is designing and testing the Interim and Objective Forces, the more open, objective, and reliable the field trials and experiments, the greater the likelihood of gaining consensus from within and outside the Army to support transformation.⁸⁸

CONCLUSION

Institutionalizing the transformation of the Army by gaining irreversible momentum is a challenging task. It requires strong and consistent leadership emphasis, communication, and teamwork. And it will also take time—possibly 5 to 10 years.⁸⁹ As defined by the Army transformation campaign plan, the momentum for transformation will be irreversible when the rate and scope of change can survive individual decisionmakers and singular, discrete decisions. The metric of irreversible momentum is the level of support the new administration,

the Congress, the American public, and the Army give to Army transformation.

General Shinseki has set the stage in the past year with the development of a sound vision and concept for transformation. The task now is to build the internal and external support the Army needs to sustain the effort. Communications is a critical part of that process. The Army can develop and use numerous themes in its communications plan. Developing the right themes and presenting them in an appropriate and effective manner are essential steps towards achieving irreversible momentum.

Obtaining support from within the Army also requires putting into place those mechanisms that foster teamwork and lead to a sense of ownership/contribution throughout the Army. To accomplish these tasks, the Army must continue to leverage its commitments to creativity and to being a learning organization. The mortar that binds these critical traits is the trust and credibility between the institution of the Army and its people. To sustain this bond and ensure the validity of its transformation concepts, the Army needs what General Atkeson describes as a loyal, supportive yet independent agency—a red team—to challenge the new concepts of organization, operation, and support. The Army must continue to ensure all of its tests and experiments remain open, objective, and rigorous. The Army must also modify its doctrine and concepts based upon the lessons learned from these tests. Testing, experimentation, and modification will act as a hardener within the mortar of trust and credibility. To prevent this foundation from cracking, the Army must maintain open lines of communication and dialogue within the Army. Lastly, to keep the momentum going, the Army must institutionalize transformation through continuity of leadership.

ENDNOTES - CHAPTER 5

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CHAPTER 6

IMPROVING THE STRATEGIC RESPONSIVENESS OF THE TRANSFORMING FORCE

James W. Shufelt, Jr.

Challenged by the last decade's dynamic strategic environment and a wide range of potential future threats, the U.S. Army has embarked on a journey to transform itself into a force of greater relevance. The creation of the first redesigned units and the selection of an Interim Armored Vehicle for procurement have established the momentum to begin, as well as sustain, the process of change.¹ This transformation will ultimately alter the Army's basic combat organization and increase its strategic responsiveness, while still maintaining its critical characteristics of decisive and dominant force. The purpose of this chapter is not to recommend fundamental changes to a transformation process that has already started, nor to attack the logic behind the decision to change. Indeed, the need for change is an imperative and the basic route is appropriate. Rather, this chapter will look at the lessons learned that drove the decision to change, review the transformation process, examine alternative transformation designs to identify potential concepts useful for improving the current transformation process, and recommend appropriate adjustments to that process.

Envisioned as a 30-year process, this evolution will be especially difficult because the Army must still execute its current commitments, while undergoing transformation. An additional challenge is the fact that the Objective Force's operational concepts, tactical organization designs, and core combat vehicle, the Future Combat System, do not currently exist. These key pieces will have to be the products of hands-on experimentation, the application of current and future lessons-learned analyses, and the incorporation of

research and development efforts conducted during the initial years of the transformation process.²

There are a number of models for the transformation of the U.S. Army, ranging from incremental modernization of its current combat systems and fighting organizations to radical revision of the Army's basic systems, units, and methods of fighting. By selecting a path that provides focused near-term fixes to documented deficiencies in order to free up resources to support a more radical transformation of the future force, the Army has rejected its previous path of gradual modernization, as well as more sweeping and immediate changes proposed by others. While the Army has consciously refused alternate reorganization models, such as those presented by Colonel Douglas Macgregor in *Breaking the Phalanx* and retired Brigadier General David Grange's team in *Air-Mech Strike*, these controversial proposals include a number of concepts that could improve the Army's strategic responsiveness. Incorporation of an Army-wide rotating unit readiness structure, increased use of reserve components for existing long-term operational requirements, adjustments in unit stationing, and tactical mobility enhancements for light forces could all help improve the Army's near-term strategic responsiveness. The positive impact of other ongoing Army actions, such as improvements in manning critical units, the development of a consolidated operational rotation plan, and the creation of additional rapid-response capabilities, would further enhance the value of these initiatives.

THE ORIGIN OF ARMY TRANSFORMATION REQUIREMENTS

The need to transform the Army from its current structure lies in its experiences since the end of the Cold War. In the challenges of the past decade, the Army succeeded despite the limitations of its available tools, light and heavy forces with Cold War structures. The conundrum that it confronts today is simple in its clarity and profound

in its operational implications. The Transformation Campaign Plan explains:

... today's Army force structure and supporting systems were designed for a different era and enemy. The Army's superb heavy forces are unequalled in their ability to gain and hold terrain in the most intense, direct fire combat imaginable and—once deployed—are the most decisive element in major theater wars. The current heavy forces lack strategic responsiveness and deployability. They also have a large logistical footprint and have significant support requirements. On the other hand, the Army's current light forces can strike quickly but lack survivability, lethality and tactical mobility once inserted. The result is a near-term capabilities gap that the Army must address as a matter of the utmost urgency.³

Operational Lessons Learned.

Operation JUST CAUSE, the U.S military's successful operation in 1989 to overthrow Panamanian strongman Manuel Noriega's regime, demonstrated the strengths and weaknesses of the Army's Cold War force structure. JUST CAUSE's success would seem to suggest a model for decisive, simultaneous distributed operations. Such a judgement, however, obscures the fact that the operation was the product of a deliberate planning process and months of preparation, including in-country rehearsals and pre-positioning of selected heavy equipment. Moreover, U.S. forces fought against a generally inept foe, who possessed neither will nor ideological commitment. A key fact was that most of the Army's force structure was too heavy to operate on Panama's primitive roads. As a result, the mechanized elements in this operation possessed some of the lightest and oldest equipment in the Army's inventory: M113A1 Armored Personnel Carriers and M551A1 Sheridan Airborne Armored Reconnaissance Vehicles.⁴

Similarly, the success of Operations DESERT SHIELD and DESERT STORM obscured the high risks incurred in the initial force deployments and the limited utility of

American light forces during the Allied offensive against the Iraqi Army in February 1991. The rapid deployment of the 82nd Airborne Division may have had considerable deterrence value, but the division possessed limited ability to stop an Iraqi attack of Saudi Arabia. Once force deployments were complete, offensive operations by the Allies' conventional heavy forces proved decisive. However, the U.S. Army's light forces in the theater had less utility due to their limited tactical mobility during fast-paced offensive operations. They thus received a secondary mission on the western flank of the main operation.

While military operations in Somalia from 1992 to 1994 were significantly different from DESERT STORM, both in mission objectives and deployment, these operations demonstrated that there is a role for heavy forces in peace operations. Moreover, it underlined that rapid deployment of such forces is critical, if peace operations lead to conventional combat. Similarly, military operations in Haiti demonstrated that, while existing American conventional heavy force equipment may be too cumbersome for potential third world venues, the coercive effect of their presence can make them useful in some situations.⁵

Peacekeeping operations in Bosnia further illuminated deployability weaknesses in the Army's structure. Current heavy equipment and constrained deployment infrastructures, exacerbated by the challenges of conventional forces executing peacekeeping operations, presented major difficulties to U.S. forces in the Balkans. While the initial movement to Bosnia received considerable publicity, problems with the use of Army heavy equipment for a variety of missions received less attention. Eventually, the Army had to issue additional wheeled tactical vehicles to the deployed heavy and light units in order for them to perform their missions better. The provision of lighter-weight vehicles allowed heavy units to minimize the road-damaging movement of M1 Abrams tanks and M2/M3

Bradley Fighting Vehicles and helped improve the tactical mobility of resource-poor light units.

The most recent deployment, the provision of U.S. forces to Kosovo in 2000, confronted similar difficulties. The deployment, training, and employment problems of "Task Force Hawk," the Army's AH-64 "Apache" and Multiple Launched Rocket System task force, have received much attention. The initial operations of "Task Force Falcon," the U.S. component of the Kosovo Force, provide an even better example of the Army's limited strategic responsiveness. Major infrastructure limitations, coupled with political decisions not to preposition significant U.S. forces and equipment in Macedonia in anticipation of possible operations in Kosovo, resulted in a hastily assembled task force as the initial American component of the Kosovo Force. Comprised of selected "Task Force Hawk" components, a Marine Corps Infantry Battalion Landing Team, an airborne infantry battalion from the United States, and command and control elements from the U.S. Army, Europe's First Infantry Division, "Task Force Falcon" achieved its missions, but at some initial tactical risk due to its hasty assembly.⁶

Future Operational Requirements.

As tumultuous as the last decade has been, the future is likely to see the Army's continued involvement in similar operational missions. Faced with a multi-polar and complex environment, the United States will confront challenges from a number of regional competitors. Adaptive and evolving adversaries will recognize weaknesses and constraints in U.S. capabilities and adjust their methods to develop and leverage short-term advantages against the American vulnerabilities. The Army's roadmap for its change process, the Transformation Campaign Plan, sums up the threat in this fashion:

The adaptive and unpredictable nature of the envisioned future adversary mandates that the Army have a rapid,

decisive capability to respond across the full spectrum of operations. The Army's current capabilities with regard to the envisioned operational environment clearly indicates that there is a near-term strategic capabilities gap which impacts on the ability to provide the NCA [National Command Authority] and CINCs [Commanders in Chief] the full range of landpower options necessary to operate in this dynamic security environment.⁷

Chief of Staff of the Army General Eric Shinseki and Secretary of the Army Louis Caldera further defined the need for change in terms of the broad spectrum of potential missions and the need for dominance throughout the spectrum of war:

The spectrum of likely operations describes a need for land force in joint, combined, and multinational formations for a variety of missions extending from humanitarian assistance and disaster relief to peacekeeping and peacemaking to major theater wars, including conflicts involving the potential use of weapons of mass destruction. The Army will be responsive and dominant at every point on that spectrum. We will provide to the Nation an array of deployable, agile, versatile, lethal, survivable and sustainable formations, which are affordable and capable of reversing the conditions of human suffering rapidly and resolving conflicts decisively. The Army's deployment is the surest sign of America's commitment to accomplishing any mission that occurs on land.⁸

The Army's experiences over the past decade and challenges of the future underline the need to transform the Army to correct past deficiencies and meet its current and anticipated future requirements more effectively.

DEFINITIONS OF KEY TERMS AND PRINCIPLES

According to General Shinseki, transformation is the process of changing the Army "into a force capable of dominating at every point on the spectrum of operations. The Army's Transformation Strategy will result in an Objective Force that is more responsive, deployable, agile, versatile, lethal, survivable, and sustainable than the

present force.”⁹ Other key requirements for this force are the ability to deploy a combat-capable brigade globally in 96 hours, have a division on the ground in 120 hours, and deploy five divisions in theater within 30 days.¹⁰ The transformation process supports changing the Army into the Objective Force, while simultaneously keeping its current forces trained and ready to meet national requirements at all times.¹¹ The Army’s Transformation Strategy, captured in the Transformation Campaign Plan, tracks the evolution of the three forces that will comprise the Army during transformation: the Legacy Force, the Interim Force, and the Objective Force.

The Three Components of the Transforming Force.

The Legacy Force consists of the current heavy and light forces. The Army must continue to support and enhance these forces to maintain its combat capabilities as the transformation process evolves. Continued sustainment and modernization of the Legacy Force, along with recapitalization of selected Legacy Force equipment, such as the “Abrams” tank, is critical, as the Legacy Force

... will continue to guarantee our nonnegotiable contract with the American people, to fight and win the nation’s wars, for a decade or more. The trained and ready Legacy Force maintains the credible deterrent that will cause our adversaries to hesitate before challenging American interests. It keeps open the current window of opportunity to transform The Army. Its readiness is indispensable to that enterprise.¹²

The Interim Force will provide an improved capability to meet current and future requirements for worldwide operational deployments. The Interim Force will consist of six to eight converted heavy and light brigades, depending on funding, restructured into Interim Brigade Combat Teams equipped with off-the-shelf Interim Armored Vehicles that are significantly lighter and therefore more strategically deployable than current armored vehicles. The first Interim Brigade Combat Team, stationed at Fort

Lewis, Washington, will provide the Army with an immediate, enhanced capability for strategic deployment. Exercises and tests will validate the organizational and operational model for the Interim Force.¹³ The original Army plan was to commence Interim Armored Vehicle procurement in 2001 and conduct operational demonstration of the first Interim Brigade Combat team in 2002. However, acquisition and production challenges have delayed the first operational demonstration until the 2003-2004 timeframe.¹⁴

The Interim Brigade Combat Team will be an infantry-heavy organization possessing improved tactical mobility and a robust dismounted assault capability. Three motorized infantry battalions, equipped with Interim Armored Vehicles, will form the brigade's primary maneuver elements. Each infantry battalion will include three combined-arms infantry company teams. The brigade will also include a reconnaissance, surveillance, and target acquisition squadron, as well as an organic antitank company, artillery battalion, engineer company, signal company, military intelligence company, and brigade support battalion. The Interim Brigade Combat Team possesses a design that will allow its rapid expansion, based on mission requirements, through the addition of similar forces, or by augmentation by forces not common to the brigade, such as military police or air defense.¹⁵

State of Army Transformation.

A dedicated research and development effort over the next decade will aim at satisfying of the required capabilities of this enhanced force: improved responsiveness, agility, versatility, deployability, lethality, survivability, and sustainability. Legacy Force units will convert directly to the Objective Force design, constructed around the capabilities of its primary combat system, the Future Combat System, followed by conversion of the Interim Force which possesses the Interim Armored

Vehicle. The current plan sees this conversion as a 15 to 20 year process, ending in approximately 2030.

Strategic Responsiveness.

Improved strategic responsiveness is the critical requirement for the Interim Force and the Objective Force, as this characteristic will address the key shortcoming of the Legacy Force. The June 2000 Draft of Army Field Manual (FM) 3-50, *Decisive Force*, explains that:

Strategic responsiveness is the ability to establish or reinforce credible force, when and where required by the joint forces commander (JFC), to maintain peace, deter conflict, or win war. Army forces meet the goal of strategic responsiveness—they are trained and ready to respond globally with decisive forces capable of executing prompt and sustained operations that span the full spectrum of military operations. The United States Army is the world's premier land force. Retaining this superiority, however, requires the Army to be strategically responsive. The Army has to move with a greater velocity and sustained lethality to continue its role as the guarantor of victory. The Army must have the capability to maneuver operationally from strategic distances as part of a joint force to provide the joint force commander (JFC) the capability for early and continuous application of interdiction and maneuver.¹⁶

Key components in this definition are “credible force,” the appropriate force needed to accomplish the mission, and the inclusion of a range of potential missions that includes “maintain peace, deter conflict, or win war.” The definition thus underlines the full-spectrum aspect of the mission. In other words, strategic responsiveness does not mean just the ability to deploy a small, light force for a peacekeeping operation. It must include deployment of a large, heavy force necessary to win a major theater war. This definition highlights the current challenge facing the Army with respect to strategic responsiveness—the need to deploy large forces more quickly with greater lethality—and further reinforces the need to transform the Army.

The Attributes of a Strategically Responsive Force.

The Command and General Staff College's Student Text 3-0 *Operations* (October 2000) discusses seven attributes that strategically responsive forces must possess: responsiveness, deployability, agility, versatility, lethality, survivability, and sustainability.¹⁷ These attributes are presently driving programmatic and operational requirements for the redesign of the Army and the accompanying force redesign and doctrinal development processes.

The essence of responsiveness is the ability to deploy the right Army forces, to the right place, at the right time. The combination of forward deployed units, forward positioned capabilities, peacetime military engagement, and force projection can provide the needed capabilities for responsiveness today and in the future. Training, planning, and preparation for deployment, to include individual preparation, equipment readiness, and frequent practice of alert and deployment plans and procedures, must also influence responsiveness.¹⁸

Deployability is a holistic attribute that combines the characteristics of a unit and its equipment with the physical characteristics of deployment support facilities, plans, and transportation modes.¹⁹ For now and the foreseeable future, Army ground units possess no inherent capability for strategic deployment—transportation of Army personnel and equipment depends on airlift, or sealift provided by other services or commercial sources. The capabilities of deployment support facilities and intermediate staging bases, if required, further define force deployability. While the Army can request acquisition of additional strategic airlift and sealift assets and can recommend improvements to strategic deployment support facilities, action in this realm lies within the purview of the other services and often loses out in annual budget struggles. As a result, the simplest way the Army can improve its strategic deployability is to redesign and re-equip its units to enhance

their inherent deployability, preposition heavy equipment in the vicinity of likely areas of conflict, and base selected units within or in close proximity to potential areas of conflict.

Agility is a tenet of Army operations as well as an attribute of a responsive force. A responsive, agile, force is sustainable and possesses sufficiently tactical mobility to accomplish the mission. However, limitations on strategic lift currently compel commanders to balance competing mission requirements and develop compromise solutions. Agile commanders and units are capable of transitioning between types of operations without loss of momentum. Agility is the product of tough, realistic training in dynamic environments.²⁰

Versatility is also a tenet of Army operations. This attribute accounts for the requirement for Army forces to conduct full spectrum operations with forces appropriately tailored for accomplishment of the specific mission. Versatility also requires that Army force packages are capable of reorganizing and adapting based on changing missions. Versatility requires that commanders carefully tailor and sequence forces during deployment, while ensuring the presence of necessary command and control, combat, combat support, and combat service support assets to accomplish assigned missions.²¹

Army forces combine the elements of combat power to maximize lethality against the enemy. Commanders must insure deployed Army forces have sufficient combat power to overwhelm potential adversaries. Commanders must also balance the ability to mass the effects of lethal combat systems against the requirement to deploy, support, and sustain the units that employ these systems.²² Survivability combines technology and methods of providing maximum protection to Army forces. Survivability can be a function of lethality; lethal forces destroy the enemy before he can strike and can retaliate, if necessary. Deploying

commanders must integrate sufficient force protection assets to ensure mission accomplishment.²³

The generation and sustainment of combat power is fundamental to strategic responsiveness. Commanders must reconcile the competing requirements to accomplish assigned missions immediately, while also deploying adequate sustainment for extended operations. Commanders must tailor force packages to provide adequate combat service support, while utilizing every option to reduce the footprint of these forces.²⁴

ALTERNATIVE FORCE DESIGNS

There are two major force designs that this chapter will consider that could provide alternatives to the Army's current plan for transformation: Colonel Douglas Macgregor's Phalanx and Brigadier General David Grange's Air-Mech-Strike Force. These two force designs were selected because the former initiated intense public debate over the Army's future force structure, while the latter appeared after the Army had determined its path for transformation.

Macgregor's Phalanx.

Written by a professional soldier during his year as a Military Fellow at the Center for Strategic and International Studies, Colonel Macgregor's *Breaking the Phalanx: A New Design for Landpower in the 21st Century* has inspired intense debates on the redesign of the Army.²⁵ His analysis of the role of landpower in joint operations and resulting recommendations for Army reorganization were immediately controversial, both in scope and the response they inspired. Macgregor argued that the Army needed to evolve due to changes in the strategic environment, as well as the necessity of leveraging the technology of the information revolution better and integrating itself more closely with joint operations. He recommended reorganizing the Army into mobile combat groups. These groups,

designed for rapid and decisive action, would then be task-organized, based on the situation, under the command and control of corps headquarters designated as a Joint Task Force Headquarters.

Basing his recommendations on historical analysis of the decisive role of landpower in combat and the difficulty of achieving revolutionary changes in peacetime organizations, Macgregor identified the Army's most pressing requirement as the ". . . need to emphasize qualitative improvements to compensate for reduced numbers of Army ground forces and the need for adaptable warfighting structures that can fill a wide range of mission requirements."²⁶ Combining this argument with a historical trend toward smaller, more mobile, integrated "all arms" combat formations, Macgregor recommended the formation of four types of 4,000-5,000-man combat groups: heavy combat groups, airborne-air assault groups, heavy reconnaissance-strike groups, and light reconnaissance strike groups.²⁷ All combat groups would be self-contained, all-arms, self-supporting organizations, commanded by brigadier generals.²⁸ Macgregor further recommended the formation of additional functional groups to provide operational level support: general support groups, engineer support groups, rocket artillery groups, theater high altitude air defense groups, air defense groups, aviation strike groups, aviation support groups, and command, control, communication, computers, and intelligence (C4I) groups.²⁹ Under his concept, the entire Army, to include reserve components, would reorganize into a group-based structure.

The most controversial aspect of Macgregor's recommendation was the elimination of the division command and control echelon, in favor of corps-level joint task force headquarters, that would directly command assigned groups.³⁰ He argued that such an approach would allow force tailoring without the removal of assigned forces or headquarters from divisions, as occurs today, which often leaves a division incapable of executing other operational

missions.³¹ He further argued that this organization would prove more capable of rapidly executing operations based on Joint Intelligence, due to its elimination of a redundant echelon of command, the division headquarters.³² Macgregor also argued that his reorganization would inherently better prepare the Army for commitment, as it would also facilitate a tiered system of rotating readiness. According to his argument, the combat groups would rotate through three 6-months long operational readiness cycles in peacetime, enabling one-third of the combat groups in the Continental United States (CONUS) to be available for worldwide deployment at any time.³³

Macgregor also recommended changes to other aspects of the force. He proposed minor adjustments in current overseas stationing plans, specifically reducing forces in Europe and Korea, while increasing forces permanently stationed in the Middle East. He argued that such minor changes would actually increase the overall size and number of contingency forces available for commitment to wartime theaters.³⁴ He further advocated the co-evolution of doctrine with organizational change and incorporation of new technology, as well as more rigorous and dynamic training programs.³⁵

Macgregor concluded that the entire national defense establishment demands transformation. He especially argued for eliminating redundant service capabilities and unjustified new weapons systems.³⁶ He stressed the importance of revolutionary change for the U.S. Army. In order to deter future aggression, where the strategic stakes justify the risks, the United States must be willing and able to respond vigorously with ground forces.³⁷ However, he noted, "attempts to graft large-scale technological change onto old thinking and old structures can only be a temporary expedient; new capabilities demand their own organizations and operational culture."³⁸

Macgregor's book inspired immediate and vigorous response from many critics. The most common argument

challenged his elimination of the divisional echelon of command. Critics argued that its elimination would create potential span of control problems. One critic stressed the low probability of getting support for this recommendation "from senior leaders who are well aware of the division's proven flexibility and staying power."³⁹ As anticipated, many critics focused on the unpopularity of specific changes for their service or branch, but most concurred with his argument for the need to think innovatively both on the battlefield and in redesigning the Army.⁴⁰

Despite these criticisms, there are many attractive features to Macgregor's proposals. His small, self-contained combat groups possess inherent responsiveness and deployability, especially in comparison to current heavy divisions. The all-arms nature of his groups would enhance their agility and versatility, and the modularity of their design would provide even greater versatility to the Joint Task Force Commander, who could construct his ground forces based on a menu of available groups. The combat groups would provide varying lethality and allow force selection commensurate with potential threat. Survivability and sustainability of these organizations would be inherent in their self-contained, self-supporting design.

Grange's Air-Mech-Strike Force.

Air-Mech-Strike Force, co-authored in 2000 by retired Brigadier General David Grange, retired Brigadier General Huba Wass De Czege, Lieutenant Colonel Richard D. Liebert (Army Reserve), Major Charles A. Jarnot (Active Army), and Mike Sparks (Army National Guard), offers another innovative force design.⁴¹ Its line of argument recommended conversion of Army divisions into organizations more strategically deployable and tactically mobile than current forces. Organizational redesign and incorporation of light mechanized equipment and commercial all-terrain vehicles would increase strategic

and tactical mobility. According to the authors, the Air-Mech-Strike concept, “provides a flexible, land combat force with the capability of air, mechanized, and dismounted maneuver to achieve decisive action through positional advantage regardless of open or restricted terrain.”⁴²

The key component of this concept would be the fielding of medium-weight tracked infantry carriers (modified M113 Armored Personnel Carriers—nicknamed Gavin fighting vehicles), the M8 Armored Gun System, lightweight tracked reconnaissance vehicles (modified 4-ton German Wiesel vehicles—nicknamed Ridgway fighting vehicles), and commercial all terrain vehicles. The key feature of the Gavin fighting vehicle would be the ability of CH47F Medium Lift Helicopters to transport it. The Ridgway fighting vehicles and all terrain vehicles would be transportable on commercial cargo aircraft, U.S. Air Force (USAF) strategic and tactical transport aircraft, as well as the Army’s CH47 and UH60 helicopters.⁴³

Under the Air-Mech-Strike concept, all heavy brigades would consist of a Ridgway fighting vehicle and all terrain vehicle-equipped reconnaissance troop, a Gavin fighting vehicle mechanized infantry battalion, an M2 Bradley fighting vehicle mechanized infantry battalion, and an M1 Abrams tank battalion. This combination of organizations would allow three-dimensional maneuver within a brigade combat team, while retaining a significant direct fire combat capability. Light brigades would improve their tactical mobility by converting one infantry battalion per brigade to a Gavin fighting vehicle mechanized infantry battalion organization and equipping the remaining two infantry battalions with Ridgway fighting vehicles and all terrain vehicles.

The vigorous exploitation of the restructured force’s third dimension of maneuver, the rapid air movement of light mechanized forces, forms the key element of the Air-Mech-Strike operational concept. This new capability to

strike enemy forces at unexpected times and locations and conduct simultaneous attacks throughout the depth of the battlefield, the authors claim, would facilitate the rapid and decisive defeat of the enemy.⁴⁴ By converting all active Army forces in accordance with this concept, every type of Army division could execute the Air-Mech-Strike operational concept. In this design, the most significant enhancements would occur in the Army's light, airborne and air assault divisions due to significant increases in their tactical mobility, survivability, and lethality.

While the conversion of the Army to the Air-Mech-Strike design would theoretically improve strategic responsiveness, at least in terms of its strategic deployability, the operational impact of conversion is currently unknown. An Army converted to the design presented in Air-Mech-Strike appears to be more agile, versatile, lethal, survivable, and sustainable than its predecessor. However, the operational concept of three-dimensional warfare presented by the authors of Air-Mech-Strike remains unproven, and the logic of immediately changing the organization of the entire Army based on an unproven operational concept is questionable.⁴⁵ Improving the tactical mobility of light infantry units through the acquisition of light mechanized vehicles and all terrain vehicles does deserve study and hands-on experimentation. Moreover, analysis and experimentation with the Air-Mech-Strike operational concepts may provide significant insights into concepts applicable to the Objective Force and could help define required capabilities for the Future Combat System.

CURRENT ACTIONS TO IMPROVE ARMY STRATEGIC RESPONSIVENESS

The Army, under General Shinseki's leadership, is already taking steps to improve its strategic responsiveness. The formation of the first redesigned Brigade Combat Teams at Fort Lewis, Washington,

development of the organizational design and operational concept for the Interim Brigade Combat Team, and the selection of an Interim Armored Vehicle for procurement are important measures to improve strategic responsiveness. Recognizing the complexity of the process of change, the Army has developed and implemented a Transformation Campaign Plan, a methodology for managing a 30 year change process. Two actions—the Chief of Staff of the Army's unit manning initiatives and the development of a consolidated unit operational rotation plan—underline the initiation of this process. They are already improving strategic readiness.

The Chief of Staff of the Army's Unit Manning Initiative.

The Chief of Staff of the Army's unit manning initiative, announced in November 1999, improves the manning of the Army's primary war-fighting organizations: its active duty divisions and armored cavalry regiments. Unlike traditional tiered manning schemes where only a selected set of high priority units were fully manned, General Shinseki directed the manning of active duty divisions and armored cavalry regiments at 100 percent of their authorized grades and skill levels. Achieving this objective will occur in several phases. During Fiscal Year 2000, the Army goal was to fill the ten active component divisions and the armored cavalry regiments to 100 percent of their aggregate personnel authorizations. The next step, targeted for second quarter of Fiscal Year 2001, is to fill the active divisions and armored cavalry regiments to 100 percent of authorizations by skill within three grade bands: E1-E4 (junior enlisted soldiers), E5-E6 (junior noncommissioned officers), and E7-E9 (senior noncommissioned officers). This simple directive has significantly improved the responsiveness of all divisions and armored cavalry regiments by ensuring they have adequate personnel to accomplish peacetime and wartime tasks. Nevertheless, this initiative is painful to both the institutional army and

corps-level and higher units, who have suffered reduced manning as a result of the initiative. Continued implementation of the manning initiative will focus on improved manning of other critical units, such as corps-level field artillery and logistics support units.⁴⁶

Implementation of a Consolidated Operational Rotation Plan.

The development of a consolidated operational rotation plan has also had a positive impact on the Army's strategic responsiveness, as it provides greater predictability and shares the burden of standing operational requirements throughout service components. The plan includes existing operational rotations through June 2005. It identifies specific divisions and corps responsible for providing units and headquarters for unit rotation to Bosnia-Herzegovina, the Kosovo Force, the observer force in the Sinai, and Operation INTRINSIC ACTION in Southwest Asia. The stabilization force rotation, in particular, is unique in its direct incorporation of National Guard units and headquarters. The implementation of this plan facilitates improved strategic responsiveness by providing advance notice of deployments to units, thus improving unit stability and supporting focused training. This plan also establishes a precedent for expanded use of National Guard units to perform other standing operational requirements, thus freeing up active duty units for other missions.⁴⁷

USAREUR's Immediate Ready Force.

A new initiative that has directly improved the strategic responsiveness of the force has been the creation of additional rapid-response capabilities such as U.S. Army Europe's (USAREUR) Immediate Ready Force. This force is a battalion-sized force consisting of a heavy company team equipped with "Abrams" tanks and "Bradley" Fighting Vehicles, a medium-weight mechanized infantry company equipped with M113A3 armored personnel carriers, and

scout, engineer, military police and communication platoons, designed for deployment in 24 to 48 hours from notification. The responsibility for providing the Immediate Ready Force rotates every 6 months among USAREUR's four heavy maneuver brigades. The force is tailorable, based on the mission, and thus provides the USAREUR Commander with a range of force options in a quick-reaction scenario. The most likely employment of the Immediate Ready Force is in conjunction with commitment of the Southern European Task Force (SETAF), the U.S. airborne infantry brigade combat team, based in Italy. The inclusion of a non-standard M113A3-equipped mechanized infantry company leverages the in-theater availability of Air Force C-130 airlift and creates a unique, medium-weight mechanized capability in Europe. Deployment of the Immediate Ready Force's heavy team would require allocation of USAF C-17s or C5As, strategic airlift aircraft based in the United States, due the weight of the "Abrams" tanks and "Bradley" fighting vehicles.⁴⁸

RECOMMENDATIONS FOR IMPROVING STRATEGIC RESPONSIVENESS

Although the Army has already made the basic decision on the path it will follow for transformation, alternative and more radical transformation designs such as Macgregor's Phalanx and the Air-Mech Strike Concept include features that could improve the Army's current and future readiness. Features that deserve study for inclusion in the present plan for transformation could include an Army-wide rotating unit readiness system, increased use of reserve units for long-term operational requirements, adjustments in unit stationing, and tactical mobility enhancements for light forces.

An Army-Wide Rotating Unit Readiness System.

As discussed earlier, the execution of a centralized Army operational deployment plan would have positive impact on

the Army's strategic responsiveness, as it would reduce active unit commitments, provide increased training predictability, and directly improve stability and training. The continued use of centralized scheduling for operational deployments, in coordination with the centrally managed rotating unit readiness system urged by Macgregor, could have an even greater impact by improving the Army's overall strategic responsiveness.

An Army-wide rotational unit readiness plan using existing active duty organizations could parallel rotational readiness systems currently utilized by every other branch of military service.⁴⁹ Macgregor bases his rotational plan on his combat groups. A similar rotating readiness plan for the Army today would depend on divisions, since current brigades are neither self-contained, nor self-supporting organizations. Analysis of the forces in today's Army indicates that the active army possesses a total of 35 light Infantry or heavy brigade-size units, ten division headquarters, and four corps headquarters. Six of these brigades are not available because of other commitments, such as general strategic commitments (the 75th Ranger Regiment), ceremonial duty (the 3rd Infantry Regiment—the Old Guard), operational missions in Korea (one heavy brigade and one light brigade), and the ongoing Interim Brigade Combat Team conversions at Fort Lewis (one heavy brigade and one light brigade). Similarly, one division headquarters (the 2d Infantry Division) is unavailable due to its operational missions in Korea and one corps headquarters (I Corps) is unavailable due to reduced manning authorizations. This leaves a total of 29 brigades (15 heavy brigades, 12 light brigades, 1 armored cavalry regiment, and 1 light armored cavalry regiment), nine division headquarters (five heavy divisions and four light divisions), and three corps headquarters available for incorporation in the rotating force readiness system.

Macgregor proposed an 18-months readiness cycle, starting with a 6-months training cycle, followed by a 6-months ready cycle, followed by a 6-months reconstitution

cycle. During the training cycle, units would conduct collective training, to include a Combat Training Center rotation, while higher headquarters would conduct a simulation exercise, all in direct preparation for transition to the highest readiness cycle, the ready cycle. During this second cycle, units would maintain their individual and collective training proficiency and serve as the Army's primary designated crisis response forces. After 6 months of duty in the ready cycle, units would then move to the reconstitution cycle, where they conduct individual replacement, education, leave, changes of command, and other necessary actions prior to starting the training cycle once again.

This model of rotating readiness is applicable to the pool of available units in several different fashions. Based on the available number of units, the Army could have a corps headquarters, three division headquarters, and a combination of nine light infantry and heavy brigades in each cycle. The simplest rotational system would be to use existing unit assignments and corps structures as much as possible (see Table 1). For example, if III Corps were the training cycle corps headquarters, it could command the 4th Infantry, 1st Cavalry, and 25th Infantry Division headquarters and combat brigades from all three divisions, augmented with brigades from the 101st Air Assault and 82nd Airborne Divisions. Similarly, if the U.S. Army, Europe's V Corps were the ready cycle corps headquarters, the ready corps could consist of the 1st Infantry Division (Mechanized), 1st Armored Division, and 10th Mountain Division headquarters and combat brigades currently assigned to the divisions, along with the 187th Airborne Brigade, which would provide forced entry capability. Forces in the reconstitution cycle would be the XVIIIth Airborne Corps Headquarters, 3rd Infantry Division (Mechanized), 82nd Airborne, and 101st Air Assault Division Headquarters, heavy brigades from the 3rd and 4th Infantry Divisions (Mechanized), the 3rd Armored Cavalry Regiment, and light brigades from the 82nd

Airborne and 101st Air Assault Divisions. The greatest difficulties with such a pattern of readiness would be that it would maximize the demand for local training resources within a narrow band in time and rigidly perpetuate current relationships without using the potential capabilities of a broad pool of available units.

Organization/ Cycle	Training Cycle	Ready Cycle	Reconstitution Cycle
Corps Headquarters	III Corps	V Corps	XVIII Abn Corps
Division Headquarters	4th ID(M)	1st ID(M)	3d ID(M)
Division Headquarters	1st Cav	1st AD	82d Abn Div
Division Headquarters	25th ID(L)	10th Mtn Div	101st AA Div
Heavy Brigade	1/4th ID	1/1st ID	1/3d ID
Heavy Brigade	2/4th ID	2/1st ID	2/3d ID
Heavy Brigade	1/1st Cav	3/1st ID	3/3d ID
Heavy Brigade	2/1st Cav	1/1st AD	3/4th ID
Heavy Brigade	3/1st Cav	2/1st AD	3d ACR
Light Brigade	1/25th ID	1/10th MD	1/82d Abn
Light Brigade	2/25th ID	2/10th MD	2/82d Abn
Light Brigade	3/101AA	3/10th MD	1/101 AA
Light Brigade	3/82d Abn	187th Abn	2/101AA

Note: This leaves 2 Brigades unassigned plus 2 converting to IBCT

Table 1. Readiness Cycles with Traditional Unit Alignments.

An alternative example of unit readiness rotations might spread brigades in a division across the various readiness cycles, thus minimizing competition for training resources and supporting training priority rotation schemes already followed internally in most divisions, at least in those divisions stationed in the United States (see Table 2). While this rotational readiness scheme would be theoretically more efficient in utilization of available training resources than one based on traditional unit relationships, the complexity of command and control and

Organization/ Cycle	Training Cycle	Ready Cycle	Reconstitution Cycle
Corps Headquarters	III Corps	V Corps	XVIII Abn Corps
Division Headquarters	4th ID(M)	1st ID(M)	3rd ID(M)
Division Headquarters	101st AA Div	10th Mtn Div	82nd Abn Div
Division Headquarters	25th ID	1st Cav	1st AD
Heavy Brigade	1/4th ID	2/4th ID	3/4th ID
Heavy Brigade	2/1st ID	1/1st ID	3/1st ID
Heavy Brigade	3/3d ID	2/3rd ID	1/3d ID
Heavy Brigade	1/1st Cav	2/1st Cav	3/1st Cav
Heavy Brigade	3d ACR	1/1st AD	2/1st AD
Light Brigade	1/25th ID	2/25th ID	1/82d Abn
Light Brigade	2/82d Abn	3/82d Abn	2/101st AA
Light Brigade	1/101st AA	3/101st AA	187th Abn
Light Brigade	2/10th Mtn	1/10th Mtn	3/10th MD

Note: This leaves 2 Brigades unassigned plus 2 converting to IBCT

Table 2. Readiness Cycles with Nontraditional Unit Alignments.

support relationships would limit its utility. Such a readiness scheme could only work if the Army were to restructure brigades to be more independent, self-contained organizations, and if division and corps headquarters were more generic in capability. This alternative would provide enhanced efficiency, as well as the benefits of the improved unit and headquarters self-sufficiency and modularity—advantages worth considering in the transformation of the force—especially with respect to improving the strategic responsiveness of the legacy forces over the next 30 years.

Improving Light Force Tactical Mobility.

Macgregor's and Grange's proposals also address the question of improving the tactical mobility of light forces. In Macgregor's model, light forces are multipurpose forces, capable of airborne or air-assault forced entry. Once committed, Macgregor sees Army helicopters as the primary provider of light unit mobility on the battlefield. The Air-Mech-Strike concept improves light unit tactical mobility by fielding additional light mechanized and wheeled vehicles to all light infantry units. While light units selected for conversion to the Interim Brigade Combat Team design will also have increased tactical mobility with the Interim Armored Vehicle, current plans fail to provide legacy force light-infantry units not converted with enhancements to their tactical mobility. This deficiency demands further study and experimentation; the Air-Mech-Strike concept proposes several methods to improve light infantry tactical mobility.

Increased Utilization of Reserve Component Units.

Both Macgregor and Grange note that the conversion of reserve units is a more complex issue than that of active duty units for political and operational reasons. The increased use of reserve component units to perform long-term deployment requirements could further reduce the burden on over-taxed active units and would offer direct

as well as indirect benefits to the reserves. By performing long-notice operational missions, reserve component units could demonstrate their contribution to the maintenance of national defense. Performing such deployments, which feature adequate time for member notification and individual and unit preparation, would demonstrate the strengths of the reserve component with minimal degradation to mission performance. The Texas National Guard's 49th Armored Division's recent mission in Bosnia-Herzegovina has already demonstrated this ability. Increased use of reserve component units to perform other long-term operational requirements, such as the Kosovo and multinational observer missions, would further reduce active duty unit operational deployment requirements and allow active duty units to focus on training and preparation for no-notice deployments, a major improvement in the army's strategic responsiveness. Nevertheless, such increased use of reserve forces carries with it the heightened difficulty of attracting and maintaining soldiers in reserve units.

Adjusting Unit Stationing.

Minor stationing adjustments could also contribute to improved strategic responsiveness. While further reductions in Army components in Europe and Korea may be difficult because of treaty obligations, such actions would increase the size of contingency forces in the United States. Furthermore, the permanent stationing of a heavy brigade in the Middle East, as Macgregor recommends, has great strategic utility. A permanent force would provide increased deterrence with its increase in combat power compared to current rotating forces. Moreover, the removal of the "Intrinsic Action" unit operational deployment requirement would eliminate turbulence created by current rotation cycles. Conversion of at least one Europe-based heavy brigade to the Interim Armored Vehicle-equipped Interim Brigade Combat Team design is also worthy of consideration. A forward-stationed Interim Brigade

Combat Team would then be immediately available for use in the European Command's area of responsibility, further reducing strategic lift requirements.

IBCT Conversion Decisions.

The Army should also consider creating a floating prepositioned set of Interim Brigade Combat Team equipment. While it is difficult to predict where a crisis will occur and the Army cannot afford multiple sets of Interim Brigade Combat Team equipment scattered across the world, the creation of even a single floating Interim Brigade Combat Team equipment set would improve strategic responsiveness. Deployment of a floating set to likely areas of conflict would signal U.S. intentions, as well as facilitate rapid deployment of an Interim Brigade Combat Team. The greatest value of a floating Interim Brigade Combat Team, however, would lie in a situation where the Army has to deploy multiple brigades. In a future Balkan crisis, for example, the combination of a self-deploying Europe-based Interim Brigade Combat Team, a floating Interim Brigade Combat Team set linked with personnel airlifted to Europe, coupled with deployment of a third Interim Brigade Combat Team by USAF strategic airlift, would enable the rapid arrival and commitment of a division-size force, perhaps even within General Shinseki's 120-hour deployment goal for a division.

Consideration of the issues involved in the stationing of Interim Brigade Combat Teams, prepositioned equipment, and the role of Reserve Components has direct impact on fielding/conversion decisions. Table 3 presents a conversion and stationing recommendation, based on issues and recommendations previously discussed. The first two Interim Brigade Combat Team conversions reflect the ongoing conversion of two brigades at Fort Lewis.⁵⁰ This chapter does not recommend any changes to these conversions due to the adverse impact that changes to the current conversion schedule would have on overall

momentum of transformation. The selection of an East Coast-based brigade for the third brigade for conversion would result in a pool of three CONUS-based Interim Brigade Combat Teams. This would facilitate a rotational readiness plan incorporating the three Interim Brigade Combat Teams and utilize strategic deployment platforms on both U.S. coasts. Creation of the fourth Interim Brigade Combat Team from a European-based brigade would create an improved capability for strategic responsiveness within that theater and would support the constant availability of an Interim battalion-size ready force in Europe. Finally, the use of the fifth set of equipment to create an floating set of prepositioned equipment would provide a capability to preposition equipment in the proximity of a likely theater of employment and provide the nation's leaders with an additional tool for deterrence, while supporting rapid strategic deployment of forces by a variety of means.

- IBCT #1: Heavy Brigade, Fort Lewis, WA
- IBCT #2: Light Brigade, Fort Lewis, WA
- IBCT #3: Light Brigade, Fort Drum, NY
- IBCT #4: Heavy Brigade, Europe
- IBCT #5: Prepositioned equipment set, floating
- IBCT #6: Light Armored Cavalry Regiment, Fort Polk (if funded)
- IBCT #7: Light Brigade, Fort Drum, NY (if funded)
- IBCT #8: Air Assault Brigade, Fort Campbell, KY or prepositioned equipment set, floating (if funded)

Table 3. Proposed IBCT Conversions and Locations.

If congressional funding supports conversion of additional Interim Brigade Combat Teams, conversion of the 2d Armored Cavalry Regiment to a structure similar to that of the Interim Brigade Combat Team would provide additional flexibility due to its ability to execute economy-of-force missions and the inherent self-supportability of its component Armored Cavalry Squadrons. Conversion of an additional brigade at Fort Drum would create the first division composed of Interim Brigade Combat Teams and provide an ideal opportunity for experimentation with such an organization, as well as further expanding the readiness pool of available CONUS-based Interim Brigade Combat Teams. Selecting an air assault brigade from the 101st Air Assault Division at Fort Campbell for the next conversion would support experimentation within a different type of division (air assault) and further expand the Interim Brigade Combat Team readiness pool. As an alternative, creation of an additional floating set of equipment would allow the positioning of floating sets of equipment in two potential areas of conflict, or the staging of two floating Interim Brigade Combat Team sets in a single potential area of conflict, further improving strategic responsiveness.

This recommendation does not include the conversion of any reserve component brigades to the Interim Brigade Combat Team structure, as such a move would not appreciably improve Army responsiveness. Until the deployment readiness of a converted reserve component brigade changes to match that of any active component Interim Brigade Combat Team in the pool of available brigades, diversion of Interim Brigade Combat Team equipment to the reserves does little to improve overall responsiveness. Reserve component units would find better use during Army's transformation by performing long lead-time operational requirements such as stabilization force and Kosovo Force rotations and providing temporary augmentation, when Joint Strategic Capabilities

Plan-apportioned forces are unavailable due to ongoing conversion to the Interim Brigade Combat Team design.

CONCLUSION

The Army's transformation process has the potential to correct short-term deficiencies and will fundamentally change the Army in the long term. This process, guided by the Transformation Campaign Plan, must be dynamic, reflecting funding realities, experimental results, ongoing lessons learned, and emerging joint warfighting concepts. In addition, the process must address all components of the Army to ensure that improvements in overall strategic responsiveness occur throughout the service, not just in the Interim Force or the Active Component. Although not addressed in this chapter, evolving training and doctrinal issues caused by Army transformation are not trivial. The Army will have to wrestle with the employment of various combinations of forces and changing conflict scenarios, and these issues must also play a role in transformation.

As this chapter suggests, there are a number of options the Army should consider in improving its strategic responsiveness. While the exact plan selected for transformation is not as radical as some alternatives, such as Macgregor's Phalanx and Grange's Air-Mech-Strike concepts, the Army Transformation Campaign Plan does allow the Army to move forward in a process that will simultaneously address short-term responsiveness deficiencies and lead to better determination of how the Army will fight in the future. The selected path also appears to have sufficient flexibility to allow incorporation of selected components from alternate transformation proposals. For example, a rotational readiness scheme that incorporates centralized management of operational requirements and increased utilization of the reserve components offers the potential to improve the entire force's strategic readiness. Decisions about Interim Brigade Combat Team conversion and the creation of a floating

Interim Brigade Combat Team equipment set could also have a positive impact on force readiness. Regardless of which decisions the Army's leadership renders, execution of Army Transformation is a necessity. Accomplishment of any step of the process—even the creation of only a single Interim Brigade Combat Team—will significantly improve the Army's current strategic responsiveness.

Improving the Army's future strategic responsiveness is a greater challenge, due to the difficulties involved in accurately predicting future threats and the clear requirement for ever more tightly linked and integrated joint operations. Because future joint warfighting concepts are still emerging at the same time the Army's legacy systems drift into obsolescence, the Army confronts a conundrum—force modernization decisions must occur in the near term—perhaps even before joint warfighting concepts develop sufficiently to provide guidance for force modernization decisions. The greatest value the Army's Objective Force concept could provide is its potential role in forcing the rapid resolution and detailed definition of future joint warfighting concepts and requirements. The danger of proceeding with Objective Force development without a better view of the future joint fight is that the Army could potentially develop the wrong Objective Force, perfectly fitting Army requirements, while not meshing well with future joint warfighting concepts.

ENDNOTES - CHAPTER 6

1. James Dubik, "ICBT at Fort Lewis," *Military Review*, September-October 2000, pp. 17-23; Steven Lee Myers, "Army's Armored Vehicles are Already Behind Schedule," *New York Times*, November 18, 2000, p. A-10.

2. In January 2001, the Army's Training and Doctrine Command issued a briefing slide package and a paper that presented the "Foundations of Transformation" and the current version of "The Objective Force Concept." These two documents discuss future joint operational requirements, present objective force key operational concepts derived from future joint requirements, and present an initial

set of required capabilities for the Objective Force. The required capabilities list is, however, still general and provides limited detail on the future force's specific organizations, equipment, and operating characteristics. U.S. Army Training and Doctrine Command, "The Foundations of Army Transformation and the Objective Force Concept," January 17, 2001, Final Draft, and "The Objective Force: Foundations of Transformation and the Objective Force Concept," Briefing Slides, January 24, 2001, version.

3. U.S. Army, "Transformation Campaign Plan" (Pre-decisional Final Coordination Draft), October 27, 2000.

4. By 1997, both mechanized units utilized in this operation no longer existed. The M551A1 battalion at Fort Bragg, North Carolina, the 3rd Battalion, 73rd Armor (Airborne), was deactivated due to cancellation of procurement of the Armored Gun System (AGS), the designated replacement vehicle for the obsolete M551A1, and the 5th Infantry Division at Fort Polk, Louisiana, was relocated to Ft Hood, Texas, and converted to an M1 tank and M2/M3 Bradley Fighting Vehicle organization.

5. Elements of the 3d Battalion, 73d Armor (Airborne), were deployed to Haiti in 1995 for 30 days to provide additional direct firepower to the Army forces there and to enhance security of selected facilities.

6. Dennis Steele, "The Army Magazine Hooah Guide to Army Transformation: A 30-Minute Course on the Army's 30-Year Overhaul," *Army Magazine*, February 2001, p. 33.

7. "Transformation Campaign Plan."

8. Louis Caldera and Eric K. Shinseki, "Army Vision: Soldiers on Point for the Nation . . . Persuasive in Peace, Invincible in War," *Military Review*, September-October 2000, p. 3.

9. Eric K. Shinseki, "The Army Transformation: A Historic Opportunity," *Army Magazine*, October 2000, p. 28.

10. *Ibid.*

11. U.S. Congress, House of Representatives, Committee on Armed Services, "Statement of the Fiscal Year 2001 Budget and Posture of the United States Army by General Eric K. Shinseki, Chief of Staff, United States Army," 106th Cong., 2nd Sess., February 10, 2000, p. 12.

12. *Ibid.*

13. *Ibid.*

14. Myers, "Army's Armored Vehicles are Already Behind Schedule," p. A-10.

15. Dubik, "ICBT at Fort Lewis," p. 21. The organization and capabilities of the IBCT are reviewed in greater detail in U.S. Army Training and Doctrine Command, "The Interim Brigade Combat Team Organizational and Operational Concept, Version 4.0," April 18, 2000, pp. 8-19.

16. Department of the Army, "Decisive Force: The Army in Theater Operations," Field Manual 3-50 (100-7), First Draft, July 2000, p. 4-1.

17. U.S. Army Command and General Staff College, "Operations," ST 3-0, Fort Leavenworth, KS, U.S. Army Command and General Staff College, October 1, 2000, p. 3-2. This document is the current draft version of the replacement for Army FM 100-5, "Operations."

18. *Ibid.*, p. 3-3.

19. *Ibid.*

20. *Ibid.*, p. 3-4.

21. *Ibid.*

22. *Ibid.*, p. 3-5.

23. *Ibid.*

24. *Ibid.*

25. Douglas A. Macgregor, *Breaking the Phalanx: A New Design for Landpower in the 21st Century*, Westport, CT, 1997, p. xv.

26. *Ibid.*, p. 52.

27. *Ibid.*, p. 53. The heavy combat group is designed to conduct decisive offensive and defensive maneuver operations and consists of a reconnaissance squadron, three balanced combined arms battalions, an indirect fire battalion, a command/control/communications/computers/intelligence (C4I) battalion and a group support battalion. The airborne-air assault group is designed to be air-delivered in order to conduct forced entry operations, close and deep economy of force operations in support of decisive operations, contingency operations, and operations other than war as needed. In order to conduct its forced

entry and deep economy of force operations, the airborne-air assault group consists of three airborne-air assault infantry battalions, an air attack squadron, three helicopter assault battalions, an indirect fire battalion, a C4I battalion, and a group support battalion. The heavy recon-strike group is designed to conduct close and deep economy of force maneuver operations in support of the joint task force (JTF) mission and security missions (guard, screen, cover) to protect the JTF. The heavy recon-strike group is assigned three heavy reconnaissance squadrons, an air attack squadron, an indirect fire battalion, a group support squadron, and a C4I squadron. The light recon-strike group is designed to be air-deliverable and conducts close and deep economy of force maneuver operations, forced entry operations, contingency operations, and OOTW as needed. The light recon-strike group is equipped with three light reconnaissance squadrons, an air attack squadron, a combat engineer mobility battalion, a group support squadron, and a C4I squadron.

28. *Ibid.*, pp. 75-82.

29. *Ibid.*, pp. 82-83.

30. *Ibid.*, p. 84.

31. *Ibid.*, p. 85.

32. *Ibid.*

33. *Ibid.*, p. 152.

34. *Ibid.*, p. 155.

35. *Ibid.*, pp. 143, 165.

36. *Ibid.*, pp. 212-213. Macgregor argues that the Army's "Crusader" artillery system, the Navy's F/A-18 E/F aircraft, the Air Force's F-22 aircraft, the Marine Corps' V-22 "Osprey" aircraft, and its Advanced Amphibious Assault Vehicle should all be either reduced or cancelled.

37. *Ibid.*, p. 226.

38. *Ibid.*, p. 227.

39. Richard D. Hooker, Jr., "Breaking the Phalanx," *Naval War College Review*, Summer 1998, p.143.

40. In two subsequent, but related, journal articles, Macgregor specifically addressed the relationship between transforming joint

warfighting and transforming the Army. In "Transformation and the Illusion of Change," *National Security Studies Quarterly*, Autumn 2000, p. 112, he explains that "... transformation means effectively combining and integrating service capabilities with new joint operational structures." The flaw in the Army's transformation plans, he continued, is that it is not occurring within a joint transformation process. Macgregor continues his argument in "Joint Operational Architecture: The Key to Transformation," *Strategic Review*, Fall 2000, p. 35. He notes that development of a new joint operational architecture would allow better definition of the Army's Objective Force and could accelerate its development.

41. David L Grange, Huba Wass de Czege, Richard D. Liebert, Charles A. Jarnot, and Mike Sparks, *Air-Mech-Strike: 3-Dimensional Phalanx*, Paducah, 2000, p. 1.

42. *Ibid.*, pp.19-20.

43. *Ibid.*, p. 31.

44. *Ibid.*, pp. 27-28.

45. One critic, Lieutenant Colonel Steve Eden, writing in *Armor*, noted that, as intriguing as Grange's notions are, the Air-Mech Strike proposal is significantly limited by the poor quality of the presentation of its concepts, limited discussion of logistics and tactics, and the lack of a coherent justification for the need for this radical reorganization. Lieutenant Colonel Steve Eden, "Air-Mech Strike Force Proposal: Big Questions Persist," *Armor*, March-April 2001, p. 48.

46. U.S. Army, "Army Begins Manning Initiatives," U.S. Army Press Release #99-107, November 8, 1999.

47. Association of the United States Army, "Army Sets 5-Year Balkan Rotation," *AUSA News*, January 2001, p. 1.

48. Sean Naylor, "Ready—and Waiting," *Army Times*, November 6, 2000, p. 18.

49. Examples are the Air Force's Air Expeditionary Wing concept, Navy carrier battle group and submarine deployment scheduling, and Marine Corps Marine Expeditionary Brigade and Marine Expeditionary Unit deployment rotations.

50. A March 5, 2001, *Army Times* article, citing anonymous senior Army officials, stated that the next two interim brigades (conversions number three and four) would probably be stationed in Hawaii and

Alaska. The article also stated that the fifth converting brigade would be a National Guard heavy brigade. According to the article, the primary logic for the selection of the third and fourth interim brigades was the availability of support infrastructures, proximity of Air Force bases, and the adequacy of existing training facilities in Alaska and Hawaii. Supporting reasons for these selections included an emerging shift in national strategic emphasis from Europe to the Far East and the desire to retain existing heavy forces for use if a major war occurs prior to fielding of the Objective Force. The article concluded that the 2d Armored Cavalry Regiment was a candidate for the sixth interim brigade. However, as of April 8, 2001, the contents of this article had not been publicly confirmed by Army sources. Sean Naylor, "Pacific Push," *Army Times*, March 5, 2001, p. 8.

CHAPTER 7

ADAPTIVE TRANSFORMATION MODEL: A BRANCH TO THE ARMY TRANSFORMATION CAMPAIGN PLAN

Michael J. McMahon

Change is the law of life. And those that only look to the past or the present are certain to miss the future.

President John F. Kennedy, January 25, 1963

The U.S. armed forces have served our nation exceptionally well for over 225 years in war and in peace. The citizens of the United States can rest every night under the blanket of security provided by their soldiers, sailors, airmen, and Marines. In nearly every conflict in which they have participated, U.S. armed forces have successfully defended the national interests, while demonstrating an ability to adapt to the realities they faced. At present it seems unlikely that the United States will confront a viable challenger to the position of world hegemon. However, the world is a changing place. The world of 2020 and beyond will present the United States and its armed forces with a different set of challenges than those of today. Thus, the nation and its military must prepare for the future. As the common wisdom posits, the future is full of uncertainty. Thomas Hobbes said, "no man can have in his mind a conception of the future, for it is not yet."¹

Though one cannot know the future, there are some reasonable assumptions one can make. There are three aspects of the global environment of 2020 that are particularly relevant to military strategists who will design and prepare U.S. armed forces for future challenges. First, it is certain that the United States will continue to have global interests and will therefore find itself engaged with its world partners in a more complex environment. The

second key aspect of the future environment is that globalization will result in greater distribution of, and access to, technology and commercial products, to include militarily relevant technology and products. This means that the United States will find it increasingly difficult to maintain a lasting technological edge over its potential adversaries. Third, due to the increased openness facilitated by globalization, as well as an increasing interest in the continuation (or discontinuation) of the U.S. hegemony, Americans can expect potential adversaries to observe the U.S. military and adapt their capabilities and operational concepts as the U.S. forces transform. Such adaptations will be rapid and varied, most likely resulting in a proliferation of asymmetric approaches.

ARMY TRANSFORMATION

Given the changes to the global environment, the U.S. military must adapt to meet the requirements of the changing strategic environment. The Army, spurred by its poor showing during the Kosovo crisis in 1999, has developed a plan to transform itself into a more relevant force. Recognizing the need to deploy sufficient force more rapidly as the key to early prevention or resolution of conflicts, the Army Transformation Campaign Plan addresses current vulnerabilities and limitations, particularly in the area of force projection. In October 1999, the Army Chief of Staff charged the Army establishment with developing a future force that would be more responsive, deployable, agile, versatile, lethal, survivable, and sustainable than current forces. Though the traditional Army approach has been one of incremental change, or minor improvements, the Army's Chief of Staff has called for a radical transformation. The challenge for the Army, however, is that no one will relieve it of the responsibility to defend the nation's interests while undergoing transformation. Thus, the Army seeks a radical transformation, but at the same time it must maintain the ability to respond to the requirements of the dynamic global

environment. To meet these complex requirements, the Army transformation strategy attempts to balance the near-, mid-, and long-term needs through a three-pronged campaign.

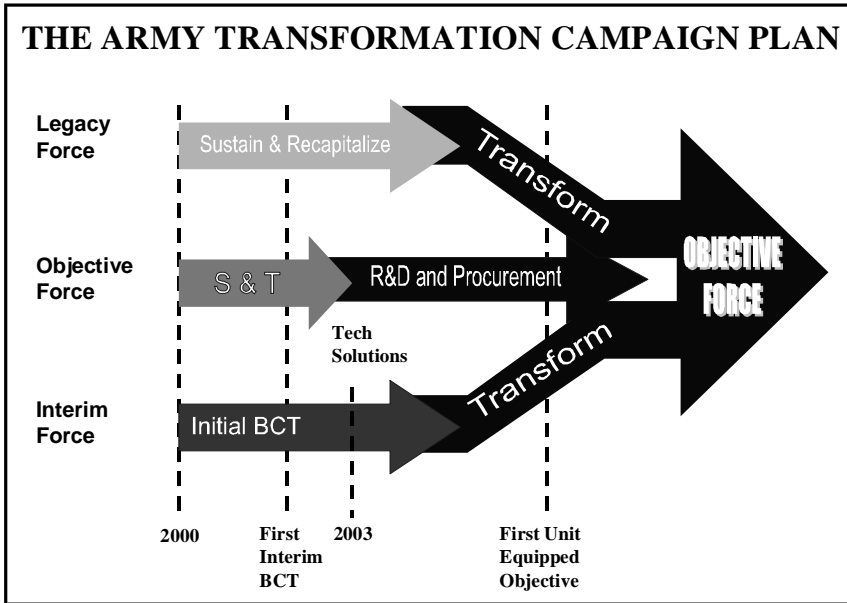


Figure 1. Army Transformation Campaign Plan.

The first axis of the Army Transformation Campaign Plan maintains and upgrades current forces (the Legacy Force) to retain the Army's readiness to support the regional command requirements. (See Figure 1.) Second, the Army will rapidly develop several Interim Brigades, which will address the critical need for rapid deployment. These brigades will take advantage of lighter platforms and more integrated organizations to provide forces that can rapidly deploy and are more easily sustained than current heavy forces. But the brigades will also remain sufficiently lethal to accomplish most of the tasks required of Army forces. The third axis of the campaign plan is development of the

Objective Force—that force that will be in existence at least through the first half of this century. It will be a force radically different from the Legacy Force in all aspects of Doctrine, Training, Organization, Leader Development, Materiel, and Soldiers. Current plans are for the Objective Force to begin fielding in 2008, with completion by 2032. This timeline requires a decision in 2003 as to what technologies the Army will pursue through research and development, in order to meet fielding dates.

THE CHALLENGE

There are several challenges to the Army's transformation strategy. First, there is some internal opposition, particularly from the armor community, which holds that the envisioned Objective Force will lack sufficient "punch" to be decisive. Furthermore, the Army lacks over \$130 billion that it needs for the transformation, though cancellation of a number of programs could reduce that total. Finally, development of critical materiel for the Objective Force relies on several technological breakthroughs that many scientists doubt will occur in the near future.

In developing its transformation strategy, the Army must ensure that it does not focus too heavily on technology itself. It will simultaneously develop the doctrine and training strategies, build organizational frameworks, and educate future leaders to deal with the complexities they will face. This parallel and interrelated development process is termed spiral development, and should provide a more rapid force development cycle than traditional sequential force development models.

The Army may eventually convince its internal opponents that its Chief of Staff, General Eric Shinseki, is on the right track, and it may also work through budgetary constraints. However, a fundamental challenge to the transformation strategy has to do with the ability of scientists to achieve the breakthroughs in technology that

will lead to the development of the systems required by the Objective Force. The reality is that while technology and science are in the midst of radical breakthroughs in the electronics field, the scientific breakthroughs that could allow the Army to change its weapons platforms radically are not so far along.

Common wisdom is that the U.S. military may be in the midst of a revolution in military affairs (RMA). However, that revolution actually comprises two sub-revolutions, one of which is already here, and the second of which the technology can not yet support. The first revolution rests on information technologies, which allow the U.S. forces to link sensors, decisionmaking processes, and weapons into a system of systems, a major stride in information dominance and an opening of the door to decision superiority.

The second RMA has two axes. First, technological advances in nanotechnology, composite materials, fuel and propulsion systems, laser and other nonexplosive weapons systems, along with continued advances in electronics, may allow development of lighter but more protected and lethal weapons systems and platforms, and provide other capabilities envisioned for the Objective Force. (see Figure 2.) The other axis of this second RMA includes the counter-capabilities and concepts that will emerge against the systems developed through the first revolution in technology. Obviously, military planners will have to deal with these challenges as they develop future forces and operational concepts, preferably by anticipating possible enemy adaptations. The real RMA will result from a synthesis of the two RMAs discussed above.²

The challenge for the Army is that there is virtually no possibility that the technologies for the second RMA will be available before the 2003 Objective Force technology decision point. Indeed, there is little likelihood that the key desired capabilities will be available before 2010. The choice then is either to delay the decision (and the resulting fielding of the forces) until the desired technologies become

available, or to continue development (and fielding) of less than desired capabilities. Obviously, neither of these alternatives is desirable, nor acceptable within the framework of the Army Chief of Staff's vision for transformation. The developers of Joint Vision 2020 realized this eventuality as they argued that the movement toward the 2020 force would have to be evolutionary. "Based on the joint vision implementation program, many capabilities will be operational well before 2020, while others will continue to be explored and developed through exercises and experimentation."³

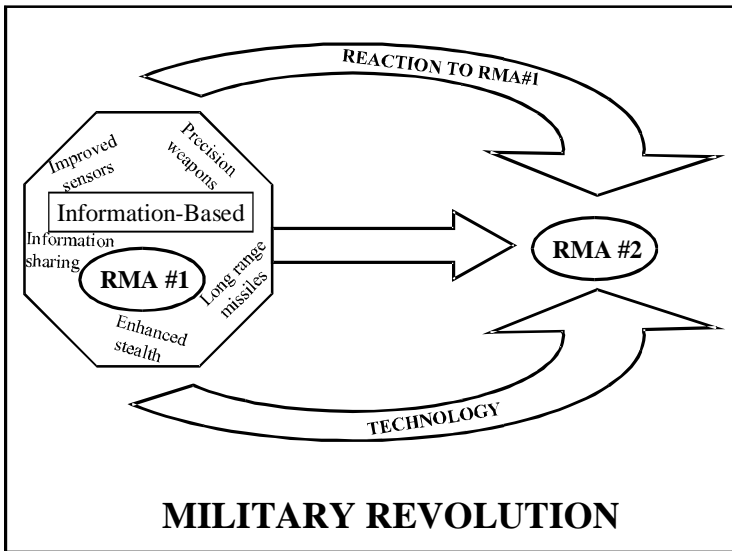


Figure 2. Two-Staged RMA.

A PROPOSED SOLUTION

Though the Army Transformation Strategy is clearly moving in the right direction—the transformation to a force that is relevant to the changing strategic environment—the potential exists that it can become untracked. This deviation may result from internal bureaucratic dysfunctions; it may come from budgetary challenges; but it almost certainly will result from technological limitations in

meeting the optimistic timelines. The Army transformation strategy should include measures to alleviate the full effect of such challenges. Army planners can develop these measures as branches to the current strategy, in order to provide the Army with alternatives to either postponing the Objective Force or selecting a less-than-desired force capability. This chapter will discuss a possible branch to the current Army Transformation Strategy that would allow the Army to transform itself radically in an iterative way, while maintaining continual relevance in the dynamic global environment.

As stated above, it is likely that America's potential adversaries will adapt their strategies, military forces, and operational concepts more rapidly than in the past. Thus, the future will become a struggle between adversaries in terms of the pace of adaptation. The fundamental leg on which the U.S. Army's future strategy stands is that the organization must adapt rapidly, particularly relative to its potential adversaries. As one commentator notes, ". . . the corollary to Newton's fundamental law of physics resounds with a sense of urgency—every technical or tactical innovation that provides a dominant military advantage eventually yields to a countervailing response that shifts the advantages to the opposing force."⁴

The Army must close the gap between the development of new technologies and new ideas on how to fight, and their absorption into doctrine. Return to Hobbes' *Leviathan* for a minute: "no man can have in his mind a conception of the future, for it is not yet." As the future is inherently uncertain, planners can not hope to be exactly right in their forecasts. Nor is it likely that whatever force the Army develops for the future will be exactly the right one. But that is not really what is critical. What is important is that the Army is not so far wrong that it can not adapt to realities as the future becomes the present. As Michael Howard suggests,

I am tempted to declare dogmatically that whatever doctrine the armed forces are working on now, they have got it wrong. I am also tempted to declare that it does not matter that they got it wrong. What does matter is their capability to get it right quickly when the moment arrives...it is the task of military science in an age of peace to prevent the doctrine from being too badly wrong.⁵

How does the Army best develop itself so that it can rapidly adapt to “what is right”? There are two ways. First, it can not afford to be too wrong, so it must develop its force in such a way that it continually adapts to the present, or, better, to the foreseeable future. Second, the Army must develop as an institution so that it can rapidly adapt to the realities of the near-future when required. The great strength of the United States during two world wars, as well as the Cold War, was that it could mobilize its great economy and innovative minds to develop the means for decisive victory. However, it took years in each case. Forecasts of the future suggest that there will not be much time to adapt. So, the organization’s responsiveness has to be faster. The greatest strategic requirement of the transformation, then, is to be able to adapt rapidly—more rapidly than potential adversaries.

In developing the Interim Brigades, the Army is now in the process of fielding two Initial Brigade Combat Teams, with two purposes. First, these brigades will provide responsive Army forces to combat commands within the next few years. Secondly, and more critical to the issue at hand, they will provide the experimental base for development of the Interim Brigades and the future Objective Force. In this light, the greatest value of the Initial Brigade Combat Teams is that they are forcing the Army to think and explore—potentially without institutional constraint. This exploration is not only in Doctrine, Training, Organization, Leader Development, Materiel, and Soldier Development, but also in transformation of the Army’s institutional practices for development of new forces and ideas.

The goal of spiral development is to develop all aspects of Doctrine, Training, Organization, Leader Development, Materiel, and Soldiers simultaneously in order to speed up the overall processes of development, and field forces more rapidly than under the old sequential development approach. In essence, the Initial Brigade Combat Team is a living example of spiral development, as it is simultaneously developing all aspects of Doctrine, Training, Organization, Leader Development, Materiel, and Soldiers. The thesis of this chapter is that the Army's transformation should follow a never-ending spiral process—one that would allow it to adapt on a continual basis to the global environment, while taking advantage of emerging technologies and ideas. Thus, the Objective Force should represent a journey, not an end state.

THE ADAPTIVE TRANSFORMATION MODEL

This proposed model attempts to address the challenges confronting the Army's current transformation strategy, while maintaining Genral Shinseki's vision. It is an adaptive strategy that follows an essentially evolutionary track towards revolutionary changes in the Army's capabilities and way of fighting. It would also maintain the capability to insert revolutionary potential at any point along the track.

As described in the Army's Transformation Campaign Plan, Army forces will fall into two categories. The first will be units of employment, essentially division and above structures, which will serve as higher headquarters in joint operations. These headquarters will act as an Army component or as a Joint Task Force headquarters, with augmentation as necessary. The other type of Army elements will be units of action, which are organizations at brigade level and below. They will actually perform the Army's operational tasks. Units of employment will have units of action assigned or attached as required.⁶

The Adaptive Transformation Model suggests further segregating Army organizations into five modules, for purposes of modernization management. This segregation may also serve as a framework for employment options. The organization of the modules would evolve as the Army's leadership makes force structure decisions, but each would include combat, combat support, combat service support, and headquarters elements. Army National Guard and Army Reserve elements would form portions of each module. Figure 3 includes a notional organization of the Army into modules. For example, Module 1 might include several Interim Brigade Combat Teams, a corps headquarters, several division headquarters, and combat support and combat service support augmentation elements associated with the Interim Brigade Combat Teams, as well as a slice of echelon above corps support elements (from the active component and both reserve

<p><u>MODULE 1</u></p> <ul style="list-style-type: none"> •I Corps •25 ID •10 ID •3 x SIB(e) •9 x BCT •4 x Avn Bde •4 x FS Bde •COSCOM •EAC Slice 	<p><u>MODULE 2</u></p> <ul style="list-style-type: none"> •V Corps •1 AD •1 ID •2 ID •9 X BCT •4 x Avn Bde •4 x FS Bde •COSCOM •EAC Slice 	<p><u>MODULE 3</u></p> <ul style="list-style-type: none"> •XVIII Corps •82 ABN DIV •101 AASLT DIV •3 X SIB(e) •9 X BCT •4 x Avn Bde •4 x FS Bde •COSCOM •EAC Slice
<p><u>MODULE 4</u></p> <ul style="list-style-type: none"> •9 x SIB (e) •9 x BCT •4 x Avn Bde •4 x FS Bde •COSCOM •EAC Slice 	<p><u>MODULE 5</u></p> <ul style="list-style-type: none"> •III Corps •1 CD •3 ID •4 ID •9 X BCT •4 x Avn Bde •4 x FS Bde •COSCOM •EAC Slice 	

Figure 3. Notional Force Module Composition.

components). The module should include sufficient elements to make it capable of independent employment as a Joint Task Force or Component Army Force element (ARFOR). Module 2 might include the elements of one of the existing Army Corps, to include all of its associated combat support, combat service support, and headquarters units, and an echelon above corps support slice.

Module 5 corresponds roughly to III Corps and associated units that make up the most modernized part of the legacy force (including units from both active and reserve components). It will undergo the currently planned upgrade program. This module will serve as the Army's "insurance policy" of lethal, survivable heavy forces able to deliver the decisive punch in the old fashion way until modern transformed forces could assume that role. Module 5 will be the last to undergo transformation.

Note from these examples that the modules are not necessarily of the same size, or composed of the same structure. Army leaders should consider numerous factors in determining the composition of the modules. These examples should not be construed to suggest that current force structure concepts should be maintained. It is likely that there will be significant changes in both command and control arrangements and in support requirements as future force concepts develop. Indeed, the Army must partner technological changes with conceptual and organizational changes to fully modernize its force capability. (See Figure 4.)

Each module represents a generation in continual modernization. At the end of its life cycle, all elements in the module would undergo another transformation to the next generation. The cycle for each modernization generation includes four phases: a science, technology, and experimentation phase (STE); a research, development, and acquisition phase (RDA); a fielding phase; and the operational phase. During the science, technology, and experimentation phase, the main effort should lie in the

ADAPTIVE TRANSFORMATION MODEL

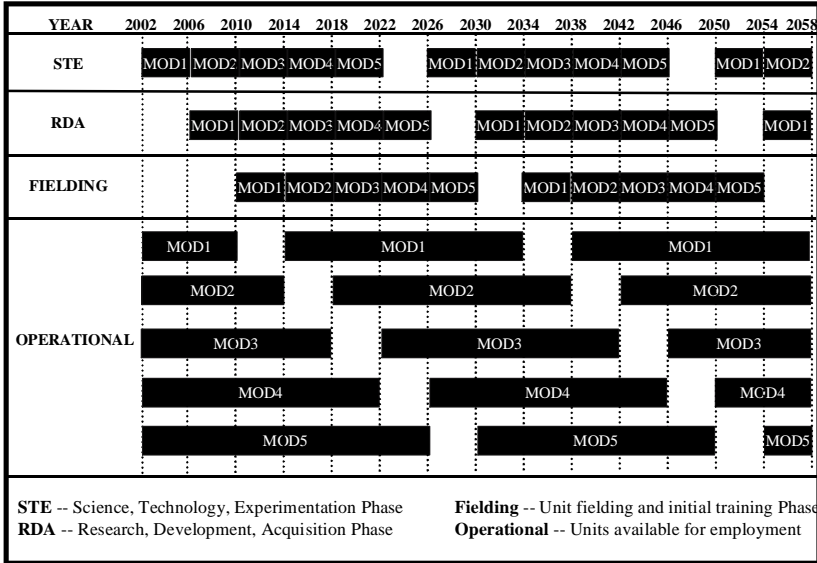


Figure 4. Adaptive Transformation Model.

science base to actualize potential technological breakthroughs that address anticipated needs. Joint experimentation would identify force requirements during this phase. At the end of the 3- to 5-year science, technology and experimentation phase, force developers would select technologies and concepts for use in designing the future forces in the module. Those technologies and concepts would mature through the research, development, and acquisition phase. Though research, development, and acquisition is an acquisition term normally associated with materiel development, this model uses the term to include maturation of all aspects of doctrine, training, organization, leader development, materiel, and soldiers. The end state for the research, development, and acquisition phase would be a package of materiel, doctrine, training strategies, organization, and personnel policies ready for fielding. The units of the module would then stand down from their current operational generation and reorganize, reequip, reman as necessary, and retrain to

become a new generation. At the end of the fielding phase, the units of the module would return to the operationally available forces of the Army, and remain ready until time to field a new generation of the module.

This model suggests that each phase of the cycle should be 4 years. This results in a 24-year life cycle for each unit, including the overlapping science, technology, and experimentation and research, development and acquisition phases. This corresponds roughly with the normal expected life of a new major end item. However, the period of each generation and of each phase of force development of a generation would be flexible, and would depend on budgetary considerations, the acceleration rate of science and technological advancement, and changes in the political-military environment. Individual units within the module would be transformed and returned in a period of less than 4 years, but the module would not be completely modernized until the end of the fielding cycle. In an emergency, the Army's leadership could accelerate the fielding of the module to increase the available forces. Additionally, new elements could also be fielded, and older modules could be upgraded if necessary. The capacity to accelerate such a change is inherent in the system, though the budgetary requirements would obviously increase.

For purposes of illustration, assume the 13th Brigade Combat Team is in Module 2. Beginning the science, technology, and experimentation phase in 2002, research, development, and acquisition phase in 2006, and fielding phase in 2010, the 13th Brigade Combat Team would be operational from 2014 through 2034, with science, technology, and experimentation (STE) for its next generation beginning in 2026. (See Figure 5.) The unit would stand down during its next fielding phase (2034-2038), in order to field systems, reorganize units, and train soldiers before training the unit up to readiness for employment. Then, it would return to the operational force in 2038. Similarly, the 14th Brigade Combat Team, a part of Module 3, would undergo science, technology, and

experimentation and research, development, and acquisition from 2006 through 2014, field from 2014 to 2018, and be operational from 2018 through 2038, with its next generation fielding in 2038. The 14th Brigade Combat Team would return to the operational forces in its new generation in 2042.

The concurrent development of doctrine, organization, and training strategies must coincide with the science, technology, and experimentation phase and research, development, and acquisition phase, along with personnel procurement and management strategies. Buying equipment is relatively simple compared to the greater challenge of transforming training, doctrine, management styles, and soldiers to meet battlefield conditions that will be more complex and demanding in the future, particularly in human terms. Therefore, the Army should follow a spiral development strategy similar to the process used in the ongoing development of the Initial Brigade Combat Teams. This development should capitalize on rapid prototyping of new systems so that training strategies and doctrine development can occur concurrently with the systems and soldiers.

LIFE CYCLE OF ONE UNIT IN MODULE ONE

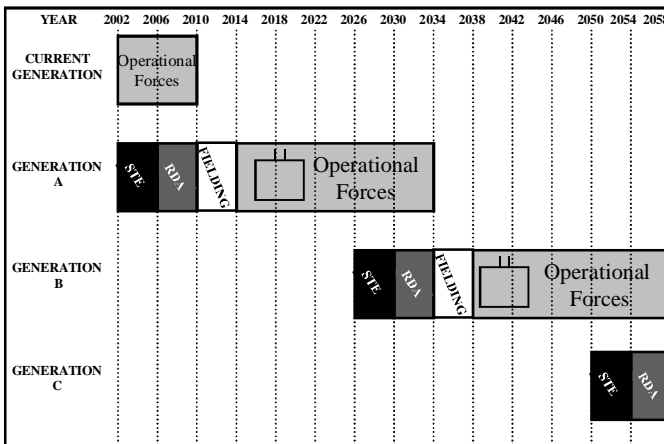


Figure 5. Life Cycle of One Unit.

To facilitate the rapid and concurrent development of doctrine, training, organization, leader development, materiel, and soldier development, development and fielding teams would form at the time of the technology and concept decisions at the end of the science, technology, and experimentation phase. These teams would include officers, noncommissioned officers, Department of the Army civilians, and contractors organized (and trained) to develop the training programs, doctrine (to include initial Tactics, Techniques, and Procedures), and organizational structures. Some institutional consistency will be necessary, suggesting a standing cadre of developers. This standing force development cadre would serve as the core of the development and fielding team. Other officers and noncommissioned officers would augment the team for development of the module they will join. These officers and noncommissioned officers would then become the Fielding Team, providing an expert corps to stand up the new organizations. They would then become part of the new organizations.

For example, a mid-grade captain may depart his unit in Module 3 to join the fielding team 4 years prior to the fielding of the next generation of Module 3. He would assist in developing the doctrine for employment of his type unit throughout the research, development, and acquisition phase, while attending mid-level education during this period. During the fielding phase, he would assist in standing up the new unit and training the officers and noncommissioned officers on doctrine and Tactics, Techniques, and Procedures for the unit, then become an operations officer in one of the new units. Likewise, a sergeant first class might leave his position as a platoon sergeant to become an individual training developer. After developing the program for training newly accessed soldiers of a certain specialty and completing senior noncommissioned officer education, he would become a first sergeant of a training company 6 months prior to the beginning of the fielding phase to produce some trained soldiers for the new

units. This continuity in function would assist in fielding the new units. Additionally, it would ensure that the development community constantly receives new inputs and energy.

Doctrine.

The Army will have to develop doctrine faster than its adversaries in order to remain dominant over the course of the coming decades. While the United States seeks dominance, its adversaries need only achieve denial capability. Thus, the U.S. military must be able to adapt quickly to denial strategies and capabilities. The current system for doctrine development is not conducive to such rapid development. With the adaptive transformation model, while some doctrine development could take place at the Department of the Army level, its more decentralized approach would speed the process, while also offering greater diversity in thought. A collaborative effort, similar to the method used in development of doctrine for the Initial Brigade Combat Teams, offers promise. The development and fielding teams described above would serve as a responsible headquarters element that is part of the module. That unit of employment headquarters (perhaps a selected corps or division headquarters) could serve as the lead for development of the doctrine for the next generation of its module, in conjunction with the development of corresponding Joint and Army doctrine by Joint Forces Command and the Army Training and Doctrine Command.

Continued development of doctrine and Tactics, Techniques, and Procedures to maintain integrative capability with the rest of the joint world should also become decentralized. The corps or division headquarters responsible for development of the initial doctrine during the research, development, and acquisition phase would retain the responsibility for Tactics, Techniques, and Procedures and doctrine development for the units of the module throughout its life cycle. This process would

facilitate continued systemic development of organizational learning by the Army. Through testing of new concepts by the operational test centers, and the tactical battle laboratories, through distributed simulations and experiments by the joint world and between and within modules, and through a free-thinking cell of officers and noncommissioned officers recently from the field, the Army could develop new concepts and doctrine in a more holistic manner. In addition, such a strategy would enhance the institution's learning by encouraging free-thinking in an unrestricted, protected, and insulated environment.

Training.

Training of soldiers and units is perhaps the most critical aspect of achieving and maintaining military effectiveness. Given adequate technology, relatively minor improvements in individual and collective competence can yield disproportionately large increases in combat power. The adaptive transformation strategy capitalizes on this aspect through continued decentralized training. Module-specific training development should occur at the module level. This would prevent the requirement for centralized individual training and would ensure that a knowledgeable training cadre is available. However, the Army should retain a central training base for initial entry training and for low-density specialties common to all elements. The development and fielding teams would be responsible for development of specialized individual and unit training to include simulations, devices and facilities, and standards and programs of instruction. The teams would capitalize on emerging training techniques such as imbedded and distributed simulations and the use of nonharmful projectiles.

The Army would restructure the existing individual training base so that each module has proponenty and ownership of the training facilities required. The noncommissioned officers and officers required to staff the

module's training base would come from the units of the module. Unit training would also be the responsibility of the module, though the Army and joint headquarters have a role in training the units of the module to operate as part of a Joint Task Force. The Combined Training Centers should continue to play the preeminent role in training units in a demanding environment. However, the Combined Training Centers should tailor their training packages to the emerging threats in the strategic environment and to the capabilities and structure of the friendly and possible enemy units.

Organization.

Force structure will evolve rapidly along with the new equipment and ways of operating. Information technology will allow better information sharing at all levels. This sharing should obviate the need for some of the levels of control that now exist. However, it is not likely that the ability of human beings to command a greater number of elements simultaneously will increase. Indeed, given the greater complexity of the future environment and the demands on human commanders, it may be necessary to reduce the span of control. Thus, though the size of staffs may decline at levels of division and above, the leader-to-led ratio in company and below may actually increase. An additional consideration is that future requirements suggest that units be organized in a modular fashion. This model may be similar to the current concept used by Special Operations Forces, which organize small functional units into mission-capable packages, tailored to the mission. To enable this modularity, it is likely that smaller self-contained units will require higher leader ratios. These are two aspects that suggest that force structure will remain an evolving phenomenon.

Each generation of modernization of the Army's forces will require an independent analysis to determine the appropriate force structure. The organizational structure of

the units in a module should undergo the same testing and experimentation that the doctrinal concepts and equipment would undergo during the science, technology, and experimentation phase. Force structure decisions should be zero-based, with no requirement to make changes to the current structure. Again, development and fielding teams should receive much latitude in developing innovative force structure. Full-time force developers would form part of the team to assist in feasibility and cost analysis and facilitate building the Tables of Organization and Equipment for units in the module. Unit force structure decisions should occur early in the research, development, and acquisition phase, so that Tables of Organization and Equipment can be built and so that personnel and equipment acquisition strategies can mature prior to the fielding phase.

Detractors to this model may suggest that the Army would become too much of a hybrid organization, too complex to receive the necessary logistical and organizational support. However, this non-homogeneity could be seen as a source of strength, in terms of flexibility and unpredictability. Further, even following the current transformation strategy, the Army through 2030 will remain a hybrid force, composed of some Objective Force units, some interim units, some remaining legacy units, the Rangers and special forces, and possibly the 101st and/or 82nd Airborne Divisions.

Leader Development.

The battlefield of the future will require more independent action at lower levels. Thus, junior leader initiative, independence of thought, and innovation will be at a premium. As they do today, small unit leaders will have to make decisions in the face of great uncertainty. While the technical and tactical aspects of warfighting develop through training, the qualities of innovation and independence required of future leaders can only be developed through experience and education. As one senior

leader noted, "we train for certainty, and educate for uncertainty."

Leader development should place great emphasis on education early in the careers of officers and noncommissioned officers alike. Though there will continue to be a requirement for staff officers with highly technical educational backgrounds, the education discipline that develops initiative and innovation is more liberal and general. Army professional development programs should include more education opportunities for officers and noncommissioned officers, and at earlier stages than is currently the norm.

Materiel.

The adaptive transformation strategy is highly dependent on a robust science and technology establishment. This effort will be in two parts. While part of the establishment would focus on development of near-term technological breakthroughs to support each module's science, technology, and experimentation phase, the remainder of the science and technology community would focus farther out. At the beginning of a module's science, technology, and experimentation phase, those technologies with near-term promise will pass to the science, technology, and experimentation team. At the end of this phase, Army leaders would select the technologies to invest in developing for the module. Those technologies not sufficiently mature or robust would pass to the next module's science, technology, and experimentation team. In this way, the Army would continue high risk technology development, while mitigating risk in the near-term development of forces. To mitigate the risk further, the ability to upgrade earlier generations selectively could occur through a dynamic series of "on-the shelf-appliqués," similar to those used during the Persian Gulf conflict.

The acquisition and fielding process currently used by the Army requires radical transformation. Consider the

fielding of the Paladin artillery system in the early 1990s. Beginning in 1987, the battlefield requirements and development process took 18 months, followed by the decisions on structure, equipment, stationing, affordability and resourcing (an additional 12 months). This was followed by the Modified Tables of Organization and Equipment documentation process (over 6 months), and the personnel training and equipment distribution processes (30 months). By the time the first unit stood up and began training, almost 6 years had elapsed since the decision to field Paladin battalions had occurred. The earlier discussion about the likely pace of technological evolution suggests that 6 years is far too long a period. Key to the force development process for the adaptive transformation strategy is the rapid development of equipment prototypes. This would allow continued development of training and employment concepts, as well as providing an ability to make changes to the equipment early in the research, development, and acquisition process, based on early testing.

There will also be an increased need for industry contractor support, particularly during the fielding phase, but most likely into the early stages of the module's operational phase. This would continue the trend seen now in the development of high technology equipment. It would allow for continuity of maintenance, as well as hands-on training by the contractors with the soldiers of the unit. With the acquisition of more off-the-shelf equipment, this requirement will increase. Key would be integration of the contractors into the development and fielding teams from the start.

Soldiers.

With the Army undergoing change, and the perpetual existence of at least five generations of forces (in addition to Special Operations Forces forces, considered separately), major changes to the current personnel system are

necessary. The degree of differentiated specialization between modules suggests that soldiers would need to be specialized as well. Indeed, it is likely that a particular military occupation specialty will exist in the units of a single module. This, in turn, suggests that soldiers should remain in units for longer periods than is currently the case. Personnel policies would have to undergo radical transformation, perhaps along lines closer to a true regimental system, thus allowing for greater stabilization of units.

Soldiers would start their careers in a module and remain in that module throughout their career. In addition to offering family stability and significantly reduced unit turbulence, stabilization would allow a considerable reduction in training turbulence, because it would be easier to maintain standards. Moreover, units could expand the cycle of training through the echelons. The most appealing aspect of a regimental system is the enhanced cohesion in units, a quality that would be at a premium in future decentralized and distributed operating environments.

One of the great impediments to implementation of a regimental system today is the requirement to man overseas billets. Without forecasting a reduction in the Army's overseas presence, this requirement could be met through unit rotations, most likely at the Brigade Combat Team level. To reduce the logistical challenges to such a rotation scheme, the five modules could be aligned with common overseas bases. In other words, a module would sponsor a particular overseas requirement and would be responsible for rotating units through the overseas deployments.

The many requirements for staffing Army- and Joint-wide organizations would be filled by unit standing requirements. Thus, a mid-grade noncommissioned officer may leave his unit to become a recruiter for a few years. He would then return to the same unit. Similarly, an officer might leave company command to become an instructor,

then return to his unit. Promotions and school selections would likewise be decentralized, at least to Major/CW-4/First Sergeant, as the requirements for the units of one module would be different from those of another.

ADVANTAGES OF THE ADAPTIVE TRANSFORMATION MODEL

The adaptive transformation model outlined above offers a number of advantages, each discussed below.

- It would allow greater flexibility, as it would facilitate adaptation to the strategic environment on a dynamic basis.
- It would be less likely that potential adversaries could predict the reaction of the United States to their actions.
- It would force development of an institutional system that could adapt rapidly in time of need.
- It would allow the Army to take advantage of technological breakthroughs and emerging concepts in a timely manner.

Flexible adaptation to the strategic environment. The only thing certain about the future global environment is that it will be increasingly dynamic and unpredictable. It is dangerous to think there is reasonable assurance the Army is preparing correctly for the future. Further, it is unreasonable to believe the United States has cornered the market of technological advances, or the integration of those advances into military systems. The development of constrained defensive spending, worldwide combined with increasing military technological potential, precludes accurate forecasts on which technologies, in what quantity and form, will be incorporated in the military systems of future adversaries.⁷ So, it is likely that "we will get it wrong," as Michael Howard suggests. In the absence of

certainty, or even reasonable guesses, the logical approach is to keep options open—build a tool box with a lot of tools.

The absence of accurate prognosis of the future does not mean, however, that the Army should not develop its capabilities. Even though technological and doctrinal dominance may be fleeting, they are still advantageous. Though the enemy may adapt, the superior force will certainly have an advantage in the first stages of a conflict. Further, apparent military dominance provides a definite advantage in diplomacy. Most importantly, remaining on the leading edge of technology and concepts provides a good jump start in adapting to the battlefield environment. Such a model would allow the Army to adapt continually to the changing environment, while maintaining modern forces.

Difficult for adversaries to predict. The ability to develop and field new forces rapidly makes it less likely that adversaries could predict the likely reaction of U.S. armed forces. Further, future opponents would find it difficult to predict how U.S. forces would fight. In developing forces and concepts for employment, Army planners must avoid doing so in a vacuum. Potential adversaries will also adapt, to a large extent in reaction to adaptations by the U.S. armed forces. As Colin Gray has suggested, “new technologies, extending through revolutions in military affairs, lose their relative potency as others engage in parallel discovery, emulate, or invest in capabilities and methods to evade and thwart the leading edge of supposedly revolutionary developments.”⁸ Sun Tzu noted that if one can predict how the enemy will fight, he has won half the battle before it starts. Having a continually changing force structure and concepts for operations makes it extremely difficult for potential adversaries to anticipate how the Army will operate.

As the Army fields and employs forces, potential adversaries will watch and learn. They will adapt their ways and means to counter U.S. advantages. Since the future environment is likely to include continued

distribution of technology, as well as a corresponding ability to acquire material and ideas, it is likely that adversaries will adapt rapidly. The key for military planners will be to anticipate the reactions of adversaries and incorporate counter-countermeasures into the forces, either into the module approaching fielding, or into the next module. An adaptive transformation model allows relatively rapid counteractions to take place in force development.

Develops an institution that can adapt rapidly. There are three major components necessary to allow rapid adaptation. First, the organization must comprise individuals who can think rapidly and adaptively. Second, the materiel development processes must be streamlined so that the gap between the discovery of new technologies and the fielding of relevant systems is minimized. Third, the organization must rapidly develop concepts into doctrine and field that doctrine.

A consistent theme throughout this paper has been that though technological dominance may be temporary, the ability to adapt faster than potential adversaries is the key to success. Therefore, educated, trained, and innovative people offer the potential for timeless dominance, as the technologies and concepts for fighting come and go. As the writers of Joint Vision 2020 note, "thinking will be at a premium since anyone can get access to the technology."⁹

One of the greatest difficulties confronting the U.S. armed forces is the reality that it is more difficult for large organizations (particularly those with a deep sense of conservative tradition) to adapt than for smaller or newer organizations. This creates a danger that U.S. adversaries may transform themselves faster than U.S. forces—in essence, they might be able to get inside the idea-to-fielding cycle. As one scholar suggested,

although information technology is touted as a means to get inside an adversary's decision loop, the reality is that a street fighter or warrior nation unencumbered by Western-style procurement regulations might easily be able to get inside of

our acquisition loop, and field newer weaponry well before we finish buying already-obsolete equipment.¹⁰

An adaptive transformation model that stresses continual transformation of forces will discipline the institution so that it will be unlikely that a potential adversary could get inside the “adaptation cycle.”

Allows for addition of technology as acquired without slowing progress. This model allows for meeting near- to mid-term requirements, while continuing the march towards the long-term needs. Even with significantly streamlined acquisition systems, it is certain that a large organization can not keep up with all advances in technology. It is increasingly evident that, while informational and other technologies relying on electronics are advancing rapidly, those technologies underwriting vehicles and weapons platforms, such as propulsion systems, composite materials, electronic and laser weapons, and munitions, are not advancing as fast. But they will become available at some point in the future. And it is certain that advances in technology will continue indefinitely. If U.S. armed forces are to continue to rely on a technological advantage, they must take positive measures to ensure they can retain that advantage. As the global environment becomes more open and militarily-relevant technologies become increasingly distributed, this will become more of a challenge for the United States. Michael O’Hanlon captured this point succinctly,

technology is continually advancing—particularly in a world that is systemically organized to conduct scientific and engineering research on a large scale. The armed forces of a country, such as the United States, that depends heavily on technology must innovate constantly in order to stay ahead.¹¹

The proposed model allows fielding of systems using the most current technologies available, with the knowledge that emerging technologies can be incorporated into a future generation, perhaps within a few years. Thus, though every Army unit may not be the most modern, the

Army will possess some units that are at the cutting edge, while the rest of the Army is within 20 years of that edge. In case of a national emergency that requires rapid fielding of more units with a given capability, or upgrading of existing units, the system could be able to meet this requirement through “appliques” or complete fielding. By the same reasoning, the new concepts for fighting and doctrine could also be disseminated to new or rapidly transformed units, though admittedly, it may be more difficult to diffuse doctrine and training rapidly than technology.

THE ROAD TO THE FUTURE

The Army has recognized the need to change. The Army Chief of Staff’s plan to radically transform the Army is the right path. As with all plans, the Army must be prepared to alter the plan when the first shots are fired, while retaining the commander’s intent. There are several challenges to the current strategy, which suggests that the Army should develop several alternative, or branch, strategies so that the train of transformation does not stop, but can take different tracks to the same destination. This chapter has suggested one such branch, one that will allow the Army to rapidly transform through an evolutionary strategy, which will continue indefinitely.

Most critically, this chapter addresses the real issue facing the Army; that is, how to transform the Army not only for the environment of 2030, but for the undefined future. The Army must transform itself throughout the 21st century, just as it did in the 20th century. Critical to the success of this endeavor must be transformation of the culture, systems, and processes inherent in the Army, so that it can adapt rapidly to changing environments. In this way, the Army can meet the challenges of the future.

Technology is a critical aspect of the American way of war, but technology is only effective in the hands of innovative, well-trained, and well-led soldiers in effective and relevant organizations. The Adaptive Transformation

Model provides an option to continue the spiral of development in order to provide the American military significant advantages over potential adversaries. This will ensure that the U.S. Army remains poised to be persuasive in peace, decisive in war, and able to promote and defend the nation's vital interests in any environment. As the president of AT&T suggested in 1997, "when the pace of change outside an organization is greater than the pace of change inside the organization, the end is near."

ENDNOTES - CHAPTER 7

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CHAPTER 8

FORCE PROJECTION RESEARCH AND DEVELOPMENT: THE KEY ENABLER FOR ARMY TRANSFORMATION

Genaro J. Dellarocco

The first task of strategy is the final assembly of the fighting forces, the first deployment of the army. Here, multifarious political, geographic, and national considerations come into question. A mistake in the original assembly of the army scarcely be [is] rectified in the entire course of the campaign.

Helmuth von Moltke¹

In spring 1998 in Albania, the Army was ready to fight, but not ready to deploy. The Army's deployment during the Kosovo crisis illustrated that force projection remains its Achilles heel and underlines the fact that the remnants of the Cold War infrastructure, thereby, and doctrine remain. The Army has yet to make deployment a core competency as the Navy, Marine Corps, and Air Force have already done. Nevertheless, Kosovo inadvertently created a renewed focus in the Army to reestablish its strategic responsiveness and value to deterrence. While the new Chief of Staff of the Army has put forth a new Army Vision, one that puts the Army on the path to becoming a relevant, decisive force, based on faster force projection capabilities, the realization of that vision requires adequately resourced research and development programs for logistics. If not, the vision becomes nothing more than a wish.

Creating Irreversible Momentum for Change.

General Eric K. Shinseki fired the opening salvo for change by laying out a challenging vision for the Army on October 12 1999.² That vision represents the catalyst for

change. It reflects lessons from the past as well as the importance of strategic responsiveness (rapidly deployable) for the Army in the face of future threats—to deter, compel, and reassure:

The Army will be responsive and dominant at every point on that spectrum. We will provide to the Nation an array of deployable, agile, versatile, lethal, survivable, and sustainable formations, which are affordable and capable of reversing the conditions of human suffering rapidly and resolving conflicts decisively. The Army's deployment is the surest sign of America's commitment to accomplishing any mission that occurs on land . . .³

To maintain the momentum for change, the vision requires a visible commitment and resources for execution. This chapter argues that the vision must go beyond simply publishing briefings and elaborate websites. It must serve as the catalyst for changing the way the Army does business, and therefore it must change organizations Army-wide. The first step began with the creation of two initial brigade combat teams.⁴ While the point of this spear is already on the way to transformation, the ability to move the new force to the battlefield and sustain it in combat remains another issue.

The vision sets the deployment mark on the wall at 96 hours for the brigade, 120 hours for the division, and 30 days for five divisions.⁵ The Army, however, cannot accomplish this task alone. It must be part, the decisive part, of a *joint* task force. It must lead all future joint task forces. Changing the Army's combat force structure and equipment is only a part of the solution. The force projection process requires as much attention and as many resources as the combat forces to accomplish the new goals of greater Army strategic responsiveness.

National Military Strategy.

The National Military Strategy rests on a national culture of winning wars not in North America, but on the

enemy's soil.⁶ The 1997 National Military Strategy recognizes the key importance of force projection. However, it rests on an earlier definition as power projection.⁷ It requires the U.S. military to have the ability to respond to a full spectrum of crises under the concepts of strategic agility, overseas presence, power projection, and decisive force.⁸ It asserts "swift action by military forces may sometimes be the best way to prevent, contain, or resolve conflict, thereby precluding greater effort and increased risk later."⁹

Strategically, decisive force provides deterrence, compellance, and reassurance.¹⁰ The U.S. military can only accomplish these goals by means of effective force projection. A demonstrated force projection process, capable of projecting a decisive force in a timely manner, provides its own deterrence. In fact, that capability can resolve or prevent crises before they escalate. Deterrence is most effective with enemies who recognize and fear the ability of U.S. political leaders to project military forces to their neighborhood quickly and decisively.¹¹

The theory of decisive force first surfaced in Joint Vision 2020, which forms the foundation of the next National Military Strategy update.¹² That document states: "The overarching focus of this vision is full spectrum dominance—achieved through the interdependent application of dominant maneuver, precision engagement, focused logistics, and full dimensional protection."¹³ Decisive force, used with an enabling force projection operation, represents both deterrence and response based on the ability to project the necessary forces to achieve preservation of all aspects of land, sea, air, and space military power—in other words, strategic agility.¹⁴

Force Projection Process.

Full spectrum operations will, as they do now, demand precision and simultaneous logistics operations. Consequentially, the force deployment process coupled with

the maneuver sustainment/distribution process equals the single force projection process. It is an operation and a process that flows through four transitional areas or phases: Continental United States, Strategic Lift, Theater, and Tactical Area (see Figure 1).¹⁵

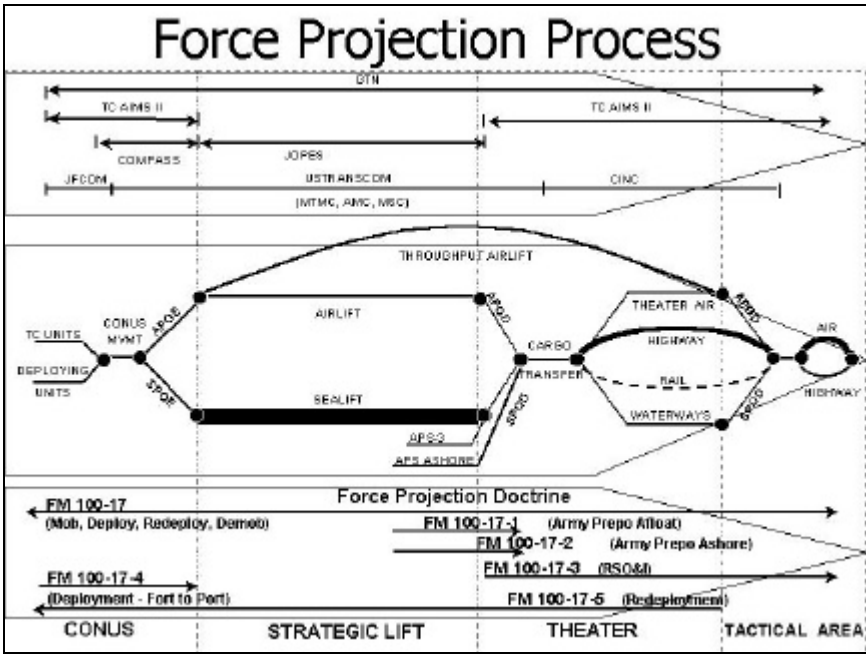


Figure 1. The Force Projection Process.

In the continental United States (CONUS) phase, deploying units depart from home-station installations across CONUS, or from pre-positioned or forward-deployed locations. These units deploy from either aerial and/or seaports of embarkation. Strategic lift basically consists of two modes of transportation: airlift and sealift, managed by U.S. Transportation Command via the Service components of the Air Force's Air Mobility Command, the Navy's Military Sealift Command, and the Army's Military Traffic Management Command.¹⁶ Strategic lift is the bridge that

connects aerial and seaports of embarkation to aerial and seaports of debarkation in the next phase.

In the theater phase, three important activities occur. These are: 1) the download or off-load of equipment and personnel at the aerial and seaports of debarkation; 2) when required, joint logistics for over-the-shore operations;¹⁷ and 3) reception, staging, onward movement, and integration operations.¹⁸ In the deploying units, soldiers marry up with their equipment; and then move onto the next phase. Units departing the reception, staging, onward movement, and integration area move to the tactical phase of the force projection process to conduct military operations that range from combat to humanitarian assistance. The sustainment of maneuver, combat, or other operations of the deployed forces becomes increasingly more important and the primary mission of the force projection process during this phase.

Research and Development Focus.

The Department of Defense (DoD) and Army's Strategic Mobility Program have invested \$34 billion since Operations DESERT SHIELD/DESERT STORM to improve the first two legs of the process. Despite this investment, the Army will not reach the goal of deploying a five-division contingency corps force in C+75 days until 2005.¹⁹ And now the Army Chief of Staff has raised the goal to do the same at C+30 days. Using current processes, the Army cannot meet these goals, unless several improvements occur to achieve quicker throughput.

In order to improve the Force Projection process, research and development must occur in three basic areas. These areas are: lightening the force, shrinking the tail, and getting there faster. To do this, a reallocation of research and development funding needs to occur in conjunction with this new focus. Currently, the majority of the Army's Science and Technology funds focus on lethality and survivability (see Figure 2).²⁰ If the strategic responsive-

ness aspect of the Army vision is to achieve reality, then the Army needs to invest more money in deployability areas to improve the force projection process.

Breakout by Army Vision Areas of AMC's FY00-05 6.2 and 6.3 Funding

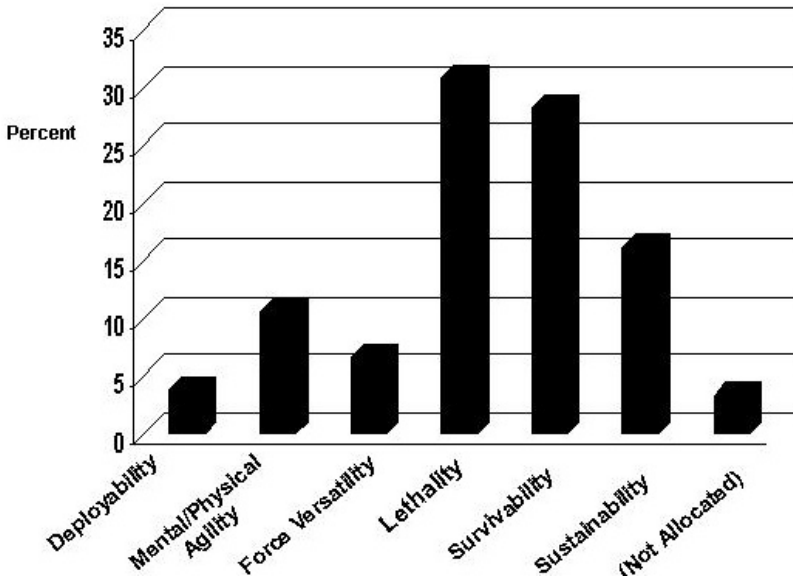


Figure 2. Key Research and Development Funding Allocations.

Of the three areas, lightening the force has received the most attention to date. For the near term, the Interim Armored Vehicle is the centerpiece of the research and development effort, followed by the objective force's future combat vehicle.²¹ While efforts here will yield greater deployability, they alone will not achieve the 96-hour deployment goals set forth in the Army Vision.

One aspect of lightening the load is to put more combat punch or lethality into a smaller, more versatile package. A number of critics have argued that the requirement for new systems to be air transportable by C-130 is only there to enhance the intratheater warfighter agility of the Theater Commander-in-Chief (CINC) and/or the Joint Task Force

Commander. Actually, it is a forcing function that aims at creating new systems that are smaller and lighter. There is a common misunderstanding about the requirement for new systems, including the Interim Armored Vehicle. This requirement allows the initial, interim, and objective systems to be transported on larger systems more readily, resulting in improved strategic agility.²²

Shrink the Tail.

The goal here must be to minimize the logistics footprint on the battlefield. This may not directly translate into a smaller CONUS logistics base to support force projection operations. There is a set infrastructure required to support all force projection and maneuver sustainment operations. However, there are several areas that can reduce the footprint. Since DESERT STORM, the Army has made considerable progress in the information management areas that support force projection operations. The new management systems focus on Total Asset Visibility and Intransit Visibility. Improved logistics information will allow the Army to send only essential materiel to a joint task force. That action alone will substantially reduce excess weight in the distribution channels and reduce the need for lift.

The three most difficult commodities to sustain a force from a logistics standpoint are ammunition, fuel, and water. Current research and development efforts need to focus on these areas intensely. Ammunition lethality, i.e., "one shot, one kill" as the worst case, with one shot, multiple kills the best, will only help reduce the logistics stain, if the warfighter has confidence in that claim. The logistics process must be responsive and demonstrate that ability, using strategic configured loads, to build that confidence.²³

In the fuels area, reducing the size of the footprint will require converting legacy vehicles to more fuel-efficient engines and capitalize on the commercial sector's evolution of new engines. The Army needs to invest research and

development dollars in the conversion of military vehicles to these new commercial power plants. However, battlefield distribution of fuel will still remain a problem, as legacy and interim forces will require fossil fuels for at least the next 30 years. Research and development efforts are necessary to ensure that efficient fuel distribution enroute to and on the battlefield are commensurate with the Army's Title 10 responsibility for inland theater fuel distribution to all Services.

Water presents similar challenges as fuel, as it too is a bulk liquid. However, sources for water are sometimes readily available within theaters, which drives the requirement for purifying water near, or within the theater of operations. The primary challenge for water is its battlefield distribution. Research and development efforts need to create an actual battlefield water distribution system down to the foxhole.²⁴

Another aspect of the C-130 transportability requirement that many overlook is the impact on reducing the logistics footprint. The smaller and lighter the new systems are, the less sustainment they require, i.e., lower fuel consumption and less handling equipment. This requirement is a forcing function that maximizes strategic and operational agility, as it forces down sustainment requirements. This aspect needs more emphasis, particularly with Congress.²⁵

Get There Faster.

Getting there faster demands quicker throughput. The force projection process consists of modes of transportation (air, sea, and surface) punctuated with intermodal nodes. Within the theater, the future aviation craft maybe as common as the tactical truck on the battlefield. The Army is currently looking at a family of new aerial platforms called Light Aerial Multipurpose Vehicle for in-theater distribution, medical evacuation, conduct reconnaissance, or transport personnel. These vehicles would complement

and replace the high mobility, multiuse vehicles currently in the legacy force.²⁶

DoD needs more C-17s.²⁷ Several simulations support this assertion, as does the U.S. General Accounting Office's report that military airlift is 30 percent short of the capability needed to support current military requirements.²⁸ In the near term, the U.S. Air Force (USAF) is promoting civilianizing the C-17 for the commercial sector. This would add a substantially new capability to the Civilian Reserve Air Fleet. Meanwhile, Boeing, maker of the C-17, is retrofitting and building new C-17s with extended range capacity (20-30 percent).²⁹

The commercial sector is creating a new aspect of the global transportation market by developing a class of aerial transport vehicles that can deliver greater tonnage than other current aircraft. This sector is now developing ultra-large aircraft concepts and prototypes.³⁰ These new heavy lifters would satisfy the commercial need to move goods to markets more quickly in the global environment.³¹ The objective transport tonnage exceeds 2.2 million pounds (1000 short tons) per lift. The impact here of research and development dollars would ensure that manufacturers incorporate military interface requirements into the initial commercial designs.

What are the implications of such capabilities? These systems would be available to the military in peacetime via normal contract channels and in time of crisis via Civilian Reserve Air Fleet.³² Additionally, their development and purchase would restructure the war reserves currently carried onboard ships and would establish a CONUS-based Prepositioned Material Configured to Unit Sets near large remote airfields. This approach could substantially reduce costs, while improving the strategic responsiveness of the forces and their equipment.³³

The next generation heavy lifters should include the Advanced Tactical Transport to replace the C-130 fleet.³⁴ For new systems, C-130 requirements were changed

slightly to 'fit' only within the C-130 envelope to accommodate advanced tactical transport development. The recent DoD "Quick Look" indicates that the Army should invest in advanced tactical transport with the capability of large heavy cargo with very short take-off and landing capability. Investment in this area would allow DoD to retire the C-130 legacy system within 10-15 years.³⁵

The other aspect of the next generation modal transportation relies on ports or over-the-shore operations. The shipping industry is developing shallow-draft and high-speed sealift that can attain double or triple the current speeds of logistics support vessels and fast sailing ships. This future capability would provide the strategic agility to project medium and heavy forces into restricted areas of operation. The Army's research and development should complement the commercial ocean shipping sector's desire to identify and accommodate military interface requirements, as well.³⁶

To increase throughput, research and development must look at the nodes of the Force Projection process. This is where there must be a change in the mode of transportation, i.e., a physical handling of cargo. Anything that can minimize the material handling of cargo needs to be a major focus of Army research and development. This effort must also encompass improvements to bypass traditional ports of debarkation (airports and seaports) and must improve the current joint logistics over-the-shore capability. Such developments would ensure throughput to a joint task force when conventional or asymmetrical enemy forces deny the use of ports.³⁷

Shift that Paradigm.

It is time to shift an old paradigm into new gear by examining a new aspect on an old system that would potentially lighten the force, shrink the logistics tail, help in getting there faster, and improve throughput. It is the truck's role in the force projection process. Currently, trucks

cannot operate autonomously. Some models have come close with on-board handling systems, such as the Palletized Loading System and on-board small cranes and forklifts. However, such trucks have the mission of handling specific battlefield distribution functions and remain limited to certain parts of the land battlefield.

What is needed is a new truck system with next-generation load handling capabilities that can manage the container rollout platform, 20-foot standard containers, and 463L pallets.³⁸ The Brigade Combat Team Organization and Operations Concept indicate the requirement for such a vehicle. According to this concept, the Initial Brigade Combat Team (and the Objective Force) will deploy using both 463L pallets and container rollout platforms in a force projection operation. Both platforms and containers would sustain the force.³⁹ The Brigade Combat Team has the ability to handle container rollout platforms with 106 palletized loading system trucks and heavy expanded mobility tactical trucks with the load handling system and twenty-foot containers with the addition of five container-handling kits. The 463L handling capability of the Brigade Combat Team remains limited to its six organic forklifts.⁴⁰ The new advanced load handling system would have the ability to handle all three platforms with each vehicle equipped with the system.⁴¹ This means that advanced load-handling trucks could: load/unload Air Force cargo aircraft directly without the aid of forklifts or K-loaders; transload cargo; and load/unload itself. The vehicle would also need to be lightweight and sized to fit in the C-130 envelope. The advanced load handling system would be a modular system integrated into semi-trailers, commercial vehicles, and tactical trucks.

Limited research is at present occurring with current platforms to improve aerial port of debarkation throughput from two perspectives. The first concerns the C-17. Boeing is developing, separately and in conjunction with the Army's Tank-automotive Armaments Command and the Air Force, concepts for eliminating the need of K-loaders and forklifts.

These concepts focus on building this capability into the C-17 and range from the patented articulating ramp tailgate that can load and unload 463L pallets onto a truck or trailer, to an internal crane that will do the same for 20-foot containers.⁴² The second area concerns palletized loading system/load handling system trucks and something called the “Slipper.” This research and development team has constructed a prototyped device that allows these trucks to load and unload the container roll-out platform directly from a C-17 without using a K-loader or forklift.⁴³ The paradigm shift is starting, where some day soon, Air Force planes will offload directly to the Army soldier and his or her truck—another example of the “Army of One” capability.⁴⁴

The potential impact of the advanced load handling system on ports of debarkation, reception, staging, onward movement and integration operations, and battlefield ground distribution is substantial. Using the objective brigade combat team as the example, the advanced load-handling system would integrate directly into the 242 palletized loading system, heavy expanded mobility and medium tactical vehicles.⁴⁵ At aerial ports of debarkation, Army advanced load handling system-equipped vehicles would eliminate the need for the Air Force to bring in tactical K-loaders and forklifts, thus reducing sortie requirements. Furthermore, the advanced load-handling system would increase the density of aircraft offloading trucks, while most units of the objective brigade combat team would have organic advanced load-handling system-equipped vehicles. Air Force cargo aircraft would off-load more quickly and cargo would clear the airhead immediately. Consequently, reduced aircraft turnaround times would allow more sorties to land and unload at a given airfield within a 24-hour period.

The high density, expanded platform handling and the organic features of advanced load-handling system trucks would speed cargo clearance through ocean terminals and reception, staging, onward movement and integration

activities, as well. The greater throughput to combat units on the battlefield would significantly enhance speed and combat logistics. For high volume fort, ports of embarkation, ports of debarkation, and reception, staging, onward movement and integration operations, the advanced load handling system-equipped line-haul semi-trailers would add new efficiencies as they load, transload, and unload themselves without the aid of forklifts and container handlers. While the advanced load-handling system may not entirely replace forklifts and K-loaders on the battlefield, the system would shrink the logistics footprint, maximize the truck fleet in the force structure, maximize battlefield distribution, improve airhead cargo clearance, and speed deployment throughput.

So, what is needed to determine requirements? First, the Army needs to develop a battlefield (fort to foxhole) simulation with the fidelity to determine the optimum size platform for combat units. Despite the fact that there are numerous simulations that address various aspects of the process, there is none comprehensive enough with sufficient fidelity to examine all the internal aspects of the nodes in the force projection process.⁴⁶ Is the answer the container roll-out platform or is something smaller needed? Does the 463L pallet and system need modernization? Can both platforms still be used? This reexamination would then drive the requirements for an advanced load handling system. Can the current palletized loading system be modified or does it require a different design entirely? An adequately funded joint research and development venture with the commercial sector (via the National Automotive Center) or through the U.S. Army Training and Doctrine Command's (TRADOC) Concept Experimentation Program could answer these questions with sufficient resources.⁴⁷

New Organizational Transformations.

The first part of showing commitment to creating irreversible momentum for a new vision is to change or

realign organizations to fit or support the new vision. After the Gulf War, the Army Strategic Mobility Program and its Power Projection Council of Colonels provided the organizational synergy that created the momentum for the vision of its day. They accomplished much for the Army and DoD.⁴⁸

The Army is entering an era of considerable uncertainty with a vision that addresses the new global environment—a vision that aims at transforming not only the Army, but at becoming the catalyst for transforming the other Services as well. The Army Chief of Staff took the first step by creating a new combat entity called the initial brigade combat team. This organization is the precursor to the objective force in coming decades. However, his work has only begun, if he truly wishes to transform of the whole Army. To gain more commitment and create irreversible momentum for this new vision, the Army requires larger organizational change.

For research and development, this change is crucial to harness and focus the energies of widely dispersed interests. There are over eighty organizations that play a role in the force projection process. However, there is no coherent organizational focus to provide direction and allocate scarce resources among these organizations.⁴⁹ Consequentially, the effort to improve the force projection capability of the Army remains diluted, both structurally and developmentally. It is time to move beyond the organizations of the last war and create a single point of contact for force projection, maneuver sustainment, and distribution.⁵⁰

To do this the Army needs to make four major organizational changes to support the initial force structure developments illustrated by the initial brigade combat team. They are:

1. Create an Army Expeditionary Support Command.

2. Create a Deputy for Systems Acquisition reporting to the Commander, Army Expeditionary Support Command who would act as a Program Executive Officer for Force Projection and Maneuver Sustainment.

3. Establish the Force Projection Center of Excellence.

4. Change the name and focus of the Power Projection Council of Colonels to the Force Projection Council of Colonels.

AMC Transformation.

In its current form, the Army Materiel Command (AMC) organization suboptimizes its vast resources in both supporting Army transformation and transforming itself into a warfighter-relevant enterprise. There is a perception in the warfighter community that the command is not really committed to the Army transformation. This perception ranges from no visible role to only the Interim Armor Vehicle involvement. Moreover, many view the AMC as a vast outdated monolith, deeply rooted in wholesale logistics and rigid institutional practices that have lost touch with the warfighter. These perceptions may be misinformed, but nonetheless they are widespread.⁵¹ Despite these perceptions, the Commander of the AMC asserts, "Army Transformation cannot happen without the AMC!"⁵²

So, what does the AMC need to do? To begin with, it must rebuild the linkage to the warfighter and focus on jointness. It must continue its current support for Army transformation, but do so more visibly and more vocally. Secondly, the command must fundamentally transform itself, adapt to new missions, and begin the process by becoming a major supporter of maneuver. In both cases, it will take strong leadership to overcome the institutional barriers and change-resistant mindsets found throughout the command. Change will need to have genesis outside its structure, in effect, directed by the Army Senior leadership

and progress toward an end state measured at the Readiness Review Committee's level.

The AMC transformation should begin with the creation of an Army Expeditionary Support Command, a three-star command (dual-hatted as the Deputy AMC Commander) that would focus on force projection and distribution processes that support Army expeditionary forces (see Figure 3).

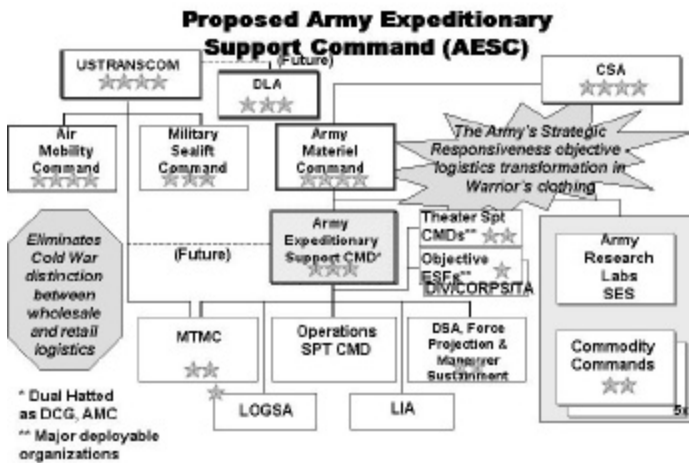


Figure 3. A New Structure for the Army Materiel Command.

Its mission would be:⁵³

- Integrate development, transportation, distribution, and maneuver sustainment functions to achieve the Army Vision of Strategic Responsiveness via improving and executing the force projection process.
- Assist CINC, Joint Task Force, Army Service Component Command, Commander Army Forces, and Joint Forces Land Component Commander planners in the force projection, distribution, and maneuver sustainment of Army Legacy, Interim, and Objective forces.

- Support the Army's role in joint force projection operations and serve as the Army's operational focal point for the process inside the Army as well as with the other Services, CINCs, Joint Staff, and DoD at large (including the Defense Logistics Agency).

- Provide the force projection platform for the Objective Force's Expeditionary Support Forces.

- The command would have three two-star commands: Military Traffic Management Command, Operations Support Command, and Army Expeditionary Support Command Deputy for Systems Acquisition for Force Projection and Maneuver Sustainment (new). Both the Military Traffic Management Command and Operations Support Command would incorporate their extant subordinate organizations including their one-star commands, Deployment Support Command and Field Support Command. Additionally, the Logistics Integration Agency and Logistics Support Activity would fall under the Army Expeditionary Support Command. Lastly, the Objective Force Expeditionary Support Forces, one-star commands, would exist as separate entities reporting directly to the Army Expeditionary Support Command, when not deployed to a Theater Support Command.⁵⁴ The benefits of creating the Army Expeditionary Support Command would be as follows:

- The Military Traffic Management Command's Deployment Support Command is the complement of Operations Support Command's Field Support Command. It would enable the force projection process of deploying war reserves at the points of embarkation and points of debarkation.⁵⁵ The Military Traffic Management Command would maintain its current relationship with the current U.S. Transportation Command.

- The Logistics Support Agency would handle all of the transactions through its vast information

systems, data management and analytical support capabilities and support deployments with its deployable Logistics Support Elements. It would simplify the information flow.

- The Logistics Integration Agency would provide critical strategic logistics planning, handle the war reserves requirements process, and conduct its logistics research and development in coordination with the Deputy for Systems Acquisition, Force Projection and Maneuver Sustainment. The Logistics Integration Agency maintains its current level of support to the Army's Deputy Chief of Staff for Logistics.

- With the three-star level command within the AMC, the Army Expeditionary Support Command could achieve additional synergies with the other AMC two-star commodity commands. It would produce better coordination between the sustainment, development, transportation, and expeditionary functional areas. At this level, it could become the catalyst to foster cooperation and teamwork between the highly institutionalized commodity commands. This would be the Army Expeditionary Support Command Commander's greatest challenge. Achieving internal Army Expeditionary Support Command synergies will seem easy in comparison.

- For the Vice Chief of Staff of the Army, the transfer of the Military Traffic Management Command to the AMC would eliminate an organization that reports to Headquarters, Department of the Army and places an operating two-star command within an operating four-star command with a new expeditionary support mission focused on the joint warfighter.

- The addition of transportation functions would complement the current AMC's sustainment and war reserve responsibilities. In effect, it would create the distribution command function within the AMC that allows

control and improvements to force projection operational throughput and reduces the logistics footprint in the joint operations area.

- This organizational combination would serve as the first step to the National Defense Panel Report recommending the creation of a Logistics Command at the CINC level. It suggests that the U.S. Transportation Command and Defense Logistics Agency be combined into a single command.⁵⁶ DoD can capture the lessons learned from the Army level restructuring before proceeding with this recommendation.

- The Army would be on equal footing with the other Services in regard to the U.S. Transportation Command. The AMC would be at the same four-star level as the Navy's Military Sealift Command and the Air Force's Air Mobility Command. This equal footing would provide a new opportunity for Army logistics three-star generals to obtain the four-star level and to become a CINC (which does not exist today).

- Lastly, the Army Expeditionary Support Command would provide the AMC with a new focus, new mission, for transforming itself. It would tie Army logisticians more closely to both the Army and joint warfighter, and demonstrate a solid commitment to the Army's transformation.

Force Projection and Maneuver Sustainment.

The Army needs to create a Deputy for Systems Acquisition for Force Projection and Maneuver Sustainment. That office would focus on the deployment and logistics/distribution systems which impact the Army's ability to deploy, force project, distribute, and sustain not only the legacy force, but also the interim and objective forces.⁵⁷ Such an organization would have both a non-traditional and an operational focus. It would pull together all aspects of the materiel development of the force

projection and maneuver sustainment enablers to modernize, develop, acquire, and field such systems. Many are the same for both areas. It would develop key synergies with the Military Traffic Management Command, Operations Support Command, Logistics Support Agency, and Logistics Integration Agency.

These systems would include watercraft, all types of trucks and trailers, locomotives and railcars, materiel handling equipment, construction equipment, port opening equipment, air transport systems (current and future), air drop systems, aerial delivery equipment and platforms, water purification and distribution systems, petroleum distribution systems, applicable soldier support systems (i.e., Force Provider), and logistics command and control information systems. Additionally, it serves as the recipient for formally transitioned research and development projects (when ready) to become legitimate development and acquisition programs from engineering centers, Logistics Integration Agency, Army Research Labs, and the Defense Advanced Research Projects Agency.

The Logistics Civil Augmentation Program would be a part of the Deputy for Systems Acquisition to leverage the acquisition process synergies to support its operational mission.

This reform would create the appropriate project and product level management organizations to specifically focus on complementary force projection and maneuver sustainment process within this Deputy for Systems Acquisition organization. The new project management and support organizations would provide a concentrated and synergistic focus on development acquisition and sustainment of the materiel needed to improve each process. It would allow the Deputy for Systems Acquisition to employ a system of systems approach to meeting the Army Vision targets. However, the systems it would manage would come from the AMC's commodity commands

and in the end produce a geographically dispersed organization.

Although geographical dispersion is not uncommon for a Deputy for Systems Acquisition, the coupling with the diversity, complexity, and budget of the assigned systems would warrant this Deputy for Systems Acquisition position to be a two-star billet. The AMC's Commodity Command one-star Deputy for Systems Acquisition would be a stepping-stone to the two-star Army Expeditionary Support Command's Deputy for Systems Acquisition. It would become an organization that would require support from all the AMC's commodity commands to achieve system synergies—a task that will require strong and dynamic leadership.

No matter how organized, the reorganization would represent a paradigm shift. The Deputy for Systems Acquisition for Force Projection and Maneuver Sustainment would serve under the Army Expeditionary Support Command's Commander and the AMC Commander. This could prompt the Secretary of the Army to appoint the AMC Commander as the Acquisition Executive for these assigned systems, if he desired a Program Executive Organization.

Force Projection Center of Excellence.

The Army also needs to create a consortium called "The Force Projection Center of Excellence" and have it chartered by the Chief of Staff of the Army. The Force Projection Center of Excellence would report out twice a year to the Vice Chief of Staff of the Army on the progress, programming, and budgeting aspects of the Army's force projection improvements. The Center of Excellence would function as part of a Force Projection Council of Colonels and General Officer Steering Committee. There are over 80 organizations that in some way participate in the force projection process. At present, there is no clear leader or forum for this critical strategic capability. While the

membership would remain primarily Army agencies, other key players from the other Services, the Office of the Secretary of Defense and other federal agencies should be included.

The Force Projection Center of Excellence would serve to promote the Army's strategic agility objectives and goals in three important ways. First, it would foster and promote cultural changes in developing the Army's force projection and subsequent maneuver sustainment and distribution into Army Core Competencies. The new Field Manual 1 dances around the issue, but "Prompt Response" fails to address the importance of getting the Army to the fight. It speaks of ends and ways, but not means.⁵⁸ It suggests that force projection is still an additional duty for the Army.

Second, the Center of Excellence would provide a forum to review and plan all aspects of force projection to achieve interservice and interagency synergies, enhance communications, and improve coordination and stewardship of scarce resources. The immediate benefits would be to find out who is doing what and how creating partnerships can leverage cooperation and improve communications. This would lead to the reduction and eventual elimination of duplicative efforts, particularly in research and development areas within the Army, other Services, and agencies. It would provide better coordination on models and simulations, science and technology objective projects, concept evaluation programs, and advanced technology demonstrations to name a few. In short, it would promote and support value-added efforts and help terminate the nonvalue added. In particular, the AMC needs to look more closely at those research and development efforts that have only changed their names to suggest linkage to Army transformation. In reality, this popular tactic has hidden scarce research and development funding in small projects with little value-added.

Lastly, the Force Projection Center of Excellence would create a stronger connection between the Army and the joint

warfighter. This organization would build strong ties not only to the Navy, Marine Corps, and Air Force, but also to Joint Forces Command and the CINCs. The Army depends on these organizations to conduct the fight or operation, but these same cannot achieve long-term mission success without the Army.

Force Projection Council of Colonels.

In response to DESERT STORM's deployment problems, the Deputy Chief of Staff for Logistics created the Power Projection Council of Colonels to focus on the Army's Strategic Mobility Program. Great strides have occurred in the program since DESERT STORM with a number of mobility projection platforms, CONUS and OCONUS, improved during this period. The total budget they influenced exceeded \$34 billion in the 1990s.⁵⁹ With the new Army Vision, this council needs to refocus and renew its energies. First, it should change its name to reflect the new focus on Force Projection: the Force Projection Council of Colonels. Secondly, the Army should formally charter this organization and have it provide oversight to the Force Projection Center of Excellence. Third, the council should build on its old Army Strategic Mobility Program focus and expand that focus to include the entire Force Projection and Maneuver Sustainment processes from the fort to the foxhole.

Conclusion

For Army Transformation to create irreversible momentum for change, the Army must invest in its future beyond the point of the spear. It requires a reallocation of its research and development effort to insure that enablers can project and sustain the Legacy, Interim, and Objective forces. Being lethal and survivable is useless, if this capability cannot get to the fight in a timely manner. More often than not, the willingness to undergo organizational change indicates a commitment. History illustrates this

well. The current Army Transformation is another case that requires vast organizational changes, as it evolves to the Objective Force. Again change is not new, it just needs to happen.

Once the Army changes and reorganizes, it needs to practice and demonstrate its new strategic agility and galvanize the capability into a solid core competency. In other words, the Army needs to achieve or surpass the Navy, Marine Corps, and Air Force force projection competencies. Simulating it at the National Training Center does little to foster deterrence—nor does the cancellation of four of the last five joint logistics over-the-shore exercises.⁶⁰

It will take actual force projection exercises and joint partnerships with Marine Corps, Navy, and Air Force to hone these Army skills. The foundation is in place in many areas for these partnerships. For example, the Army already has officer instructors on staff with Navy's Pacific Expeditionary Warfare Training Group.⁶¹ Perhaps one day, when CINC planners see Marine Corps Maritime Preposition Ships and Army Preposition Sets on an equal footing, the Army will have earned again serving as an expeditionary force.

Decisive force can provide global reassurance only if it can demonstrate routinely and convincingly its force projection. From a strategy perspective the Army has only begun to move in that direction as the way the United States will wage war as it protects itself, its interests, and its allies in the future. The Army will become the central part of the Nation's military power, when its strategic agility makes it the force of choice when joint decisive operations are required. If nothing is done to improve the Army's strategic agility, given the new timelines, the Army will only be able to project its power into Canada or Mexico. Then, the vision becomes only an idle wish.

ENDNOTES - CHAPTER 8

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CHAPTER 9

TRANSFORMING THE ARMY SUSTAINING BASE

Danny G. Nobles

Fort Concho is one of the most beautiful and best-ordered posts on the Texas border. Its arrangement was artistic and every feature bespoke comfort and convenience. On the south side of the ample parade grounds stood the officers' quarters, tasty, elegant, imposing; on the north, the commodious and handsome barracks; on the east side the commissary and quartermaster's buildings, while the west side of the grounds was closed with an ornamental fence with a large gateway in the center.

Captain Robert Carter, 1876¹

Attempts to discover methods of effective and efficient installation management are not new or unique to the American Army. Well managed posts, camps, and stations have been a symbol of military order and discipline from the time of the garrisons that secured the Roman Empire to the post that secured frontier America. During the past 220 years, the United States has developed from a struggling experiment of democracy into the world's sole superpower. The nation's army also evolved from a humble birth of patriotic militiamen into a professional, highly trained and technologically equipped landpower. However, its camps, posts, and stations continue to symbolize the order and discipline of the Army. The Army is preparing for a future that is radically different from the past. Technology and economic globalization offer promises of enriched quality of life, but regimented hatred and the proliferation of weapons of mass destruction threaten every region of the world. The Army must change to maintain its capability to respond to any threat and protect American interests wherever those interests are threatened. As the Army transforms, it will

discover new needs that only an efficient and effective sustaining base can provide.

In an October 1999 address to the Association of the United States Army, General Eric Shinseki unveiled his vision to transform the most powerful army in the world into a force capable of maintaining its combat power well into the 21st century. His vision requires that the Army's transformed "Objective Force" be more sustainable than current light forces, more deployable than existing heavy forces, and yet possess a capability and lethality that will remain unmatched by any potential adversary.² With that vision articulated, the U.S. Army embarked on a transformation to revolutionize its organizational structure and equipment, as well as warfighting doctrine. These changes demand new ways of doing business at posts, camps, and depots. Moreover, a transformed Army will place new and different demands on an army infrastructure that must now support power projection, training, maintenance, force protection, and quality of life. Army leaders must anticipate these demands and prepare installations to support those needs. The ability of organizations to anticipate, organize, and perform missions effectively in the face of changing environments will be a key element in successful transformation.³ Above all, a transformed sustaining base is necessary to support a transformed Army.

The transformation vision trades heavy armor protected weapon systems for the protection afforded by enhanced commanders' situational awareness leading dispersed, highly mobile combat forces. A logistical system capable of reaching back to installations in the United States for equipment, maintenance, and other sustainment requirements will sustain the transformed Army. This structure will reduce the footprint of combat support and service support forces in the theater, but will enhance the importance of the Army's posts, camps, and stations back home. Installations must become integral force multipliers by directly impacting the sustained readiness of units

engaged in combat. Experts from proponent schools, laboratories, and centers will provide technical services to combat forces. Posts and depots will provide logistical support directly to units in the field. Finally, installations will continue to provide their traditional roles as homes to soldiers and their families, places of work and training for units, and deployment platforms for force projection. Thus, transformation will require more than the installation-level approach the army has previously taken. The entire base support structure must change at every level.

Unfortunately, there has been little dialogue concerning the infrastructure changes within the Army's sustaining base that will be necessary to support the transformed force. The intent of this chapter is to describe the current sustaining base, consider the effectiveness of past and present management practices, and recommend concepts to transform installation management into a system that best serves the army and nation.

The Language of Transformation.

The language of transformation consists of unique terms and phrases that one must understand before discussing transformation. Words and phrases such as linear and nonlinear, equilibrium and far-from-equilibrium, self-organizing and organizational intelligence describe characteristics of the transformation process. Sharing a common language enables organizations to change. Michael McMaster, reengineering consultant for major corporations, such as BMW and ARCO, and author of *The Intelligence Advantage*, argues that "to begin to change anything, we must change the way we speak about it."⁴

First, one must consider the characteristics of linearity and non-linearity. Linear systems are both additive and proportional. The sum is equal to the parts; that is, one can break the system down into subparts and then reconstruct it with the same outcome each time.⁵ Thus, linear systems are consistent. Linear systems behave according to the

economic rule of “constant returns to scale,” making them predictable.⁶ However, linear systems tend to resist change. They lack the internal ability to recognize changes in the surrounding environment. They often become obsolete without external intervention. A freight train offers an example of a linear system in action. The train, with its massive weight, stands idly on a set of tracks. To change its stable, equilibrium condition, a locomotive must generate sufficient power to overcome the resistance of its stationary cars, before the train can move smoothly down the track at a given speed. This works well until the train encounters the need for change. The inertia of the system works against its ability to switch tracks, slow down, or stop and change directions. Any change in the momentum of the train requires extra power from the locomotive to overcome the system’s resistance to change.⁷ Similar conditions exist in rigidly hierarchical organizational structures, which is why Machiavelli underlined the unwillingness of human societies to change. Human organizations often work efficiently and effectively in stable environments. However, any change creates resistance that consumes much of the organization’s energy.

A nonlinear organization, on the other hand, seeks change due to its internal structure.⁸ It is designed to change. Water is a particularly good nonlinear example. At room temperature, it remains at equilibrium with its molecules densely packed in a liquid state. However, the molecules rapidly spread out from one another as temperature rises and change the condition of equilibrium. When water reaches the boiling point, transformation occurs. The far-from-equilibrium alteration in the environment enables the water to change from its liquid state into steam with the result of a tremendous release of energy. The energy increases exponentially to the degree of heat applied. Steam can perform a myriad of tasks from powering engines to generating electricity. Likewise, the key to “managing” nonlinear organizations is unlocking the synergistic potential for change by creating the right

conditions. In nonlinear systems, the whole is exponentially greater than the sum of the parts.⁹

The self-organizing feature of transformation also occurs as one heats water. The temperature of the water varies depending on its proximity to the source of heat. Water density also varies with temperature differences. The differences in temperature and density create currents that transfer energy throughout the various layers.¹⁰ Likewise, nonlinear organizational structures form and reform to communicate information in the most efficient and effective manner. Rather than resisting change, nonlinear organizations use change to unlock their potential.

An organization that enables rapid communication of ideas throughout its structure produces a culture of organizational intelligence. It encourages a flow of information about environmental changes and responsive actions throughout the organization. This process occurs upwards, as well as downwards. Transformed organizations develop integrated networks of intelligence throughout their structures. Organizational transformation occurs as the corporation recognizes changes in the environment and adapts itself efficiently and effectively to respond.¹¹ The challenge of the Army's current transformation effort is to change its current linear structures that have fulfilled requirements in the past into dynamic nonlinear organizations that can meet the ambiguous challenges of the future.

Transformation discussions commonly revolve around technology and advanced weapon systems. However, such discussions limit the perspective of transformation. The processes of transformation are more fundamental change rather than new "things." Transformation is a nonlinear phenomenon that creates organizational intelligence capable of receiving, analyzing, and responding to information. Transformed organizations respond to changing conditions in the external environment and

self-organize (transform) to take advantage of their available resources, thereby maximizing their potential for success. Understanding these few concepts provides a framework to focus on the Army's sustaining base.

Focus on the Sustaining Base.

Perhaps the main reason there has been so little discussion concerning the transformation of the sustaining base is that the subject is simply not exciting. Army transformation debates have focused on doctrine, combat force structure, revolutionary weapons systems, and emerging technology. These are valid discussions; the Army's reason for being continues to be its ability to fight and win the nation's wars. However, base operations are a key link to readiness. The Army risks its ability to project and sustain ground forces if it fails to consider its sustaining base. Defense analysts tend to be obsessed with the "point of the spear" which, in isolation, is not an effective weapon. The point requires a spear shaft to provide the weapon its balance and stability in flight and sustain its energy, as it strikes its target. The Army's sustaining base, comprised of installations and depots, along with their requisite commands and staffs responsible for managing the sustaining base, is analogous to the shaft of the spear.

Army Sustaining Base management starts with the Office of the Assistant Chief of Staff for Installation Management (ACSIM). The ACSIM is responsible for programming infrastructure requirements and resources, as well as preparing guidance and policies for the Department of the Army. The sustaining base includes staffs at the Major Army Commands (MACOMs) that promulgate installation management policies and distribute base operations resources to installations. The installations, where the Army garrisons its personnel and where soldiers and their families live and work, complete the sustaining base network. The role of the sustaining base is to provide an efficient and effective infrastructure that

includes power projection platforms, training bases and centers, camps, and depots located around the world. Looking at one part of the structure requires considering all levels of base support operations. For the purpose of this chapter, installation management, base support operations, and sustaining base management are interchangeable terms. Whatever the term, they have one clear fact in common—they represent major investments in resources!

The Business of Installation Management.

Installation management is an expensive and complex enterprise. More than 28 percent of the Army's funding supports installation management programs. Operations, maintenance, repairs, and utilities costs associated with operating the virtual cities, known as installations, consume the majority of these funds. In the current fiscal year, more than \$6.3 billion supported this operations and maintenance function. Furthermore, the Army invested another \$400 million in environmental protection and mitigation projects. New military construction projects cost \$1 billion. Army family housing absorbed another \$1 billion. Other operating costs, including civilian employee payrolls, consumed the remaining installation management budget (approximately \$11 billion in fiscal year 2001).¹² Installation management is a large capital venture. Nevertheless, it is a necessary investment in the Army's ability to house, train, equip, project, and sustain the force in a safe and protected environment. The role of the installation is more essential than ever in the era of Army transformation.

Army transformation places new demands on the sustaining base that it is currently incapable of performing. The physical infrastructure of installations has deteriorated from neglect caused by underfunding requirements. Most posts lack the robust communications systems required to support the objective force. Most have

inadequate storage capability for their current needs, much less the demands of theater logistic support. The paradox lies in the great amount of excess facilities found throughout the Army's real property inventory. However, the excess facilities are old, in poor repair, and not configured to meet requirements. Moreover, the Army is failing to manage and resource the sustaining base at levels needed to enable it to perform its current requirements, much less its emerging support roles for transformation.

Throughout the last half of the 20th century, the Defense Department struggled with the inherent conflict between fiscal efficiency and military effectiveness. In its effort to reduce costs by eliminating "redundant capabilities" and leverage private sector services, resource managers have at times compromised the effectiveness of military units to respond to the ambiguous nature of national defense. Unlike the commercial sector, efficiency must not be the key objective of military operations. Well-managed businesses attempt to standardize to the lowest level possible. Uniform systems, like a standard aircraft, truck, or tools will simplify operations, maintenance requirements, and increase operational efficiency. However, businesses do not go to war. They do not contend with an enemy that is searching for opportunities to exploit shortcomings in systems in order to defeat them.¹³ When a United Parcel Service grounds an aircraft for unscheduled maintenance, it inconveniences people because they do not receive their packages. When commanders fail to receive required intelligence information, ammunition, or fuel in combat because the enemy has disrupted or destroyed communications or logistics networks, soldiers die. There is a compelling need for some redundancy in military capabilities, including the Army's infrastructure.

Moreover, installations are vulnerable targets that will become increasingly attractive to terrorists and belligerent operatives. The sustaining base role of force projection and sustainment makes it a classic operational hub of power for the Army's combat forces. The installation's transformation

role to provide field forces with technical intelligence, engineer, and logistics support increases its value as a center of gravity. It does not matter how capable the Army combat forces are, if an enemy can cripple its installations and curtail deployment or sustainment operations. The most lethal force is only as effective as its ability to get to and be supported in the fight. Dialogue about installation management must address three legitimate questions. What does the Army get from its substantial investment? Is this investment managed in the most efficient and effective manner possible? What can be done to transform the sustaining base?

The Sustaining Base—A Foundation for Readiness.

The Army's desired return on its sustaining base investment is an infrastructure that enables force readiness. Base operations contribute to the three key force readiness areas: personnel, equipment, and training. Garrison commanders, staffs, and facilities enable units to maintain each facet of readiness. The sustaining base provides facilities and services for soldier readiness by processing, reviewing, and updating soldiers personnel files and personal records, as well as medical teams to insure that soldiers are physically fit to fight. Garrison staffs manage the maintenance facilities, ammunition storage sites, and rail stations, where equipment is loaded and deployed to ports of debarkation. Installation managers maintain qualification ranges, maneuver training sites, and classrooms. These are only a few examples of installation contributions to readiness. The global nature of the modern Army demands a sustaining base capable of equipping, training, projecting, and sustaining forces at home and abroad.

More than 116 Army posts, camps and depots around the world share a constrained base operations budget. There are approximately 166,000 facilities within those installations.¹⁴ (These numbers do not include the

numerous Army Reserve Centers and Army National Guard Armories existing in communities across America.¹⁵⁾ Installations serve a common goal; each one contributes to equipping, training, sustaining, and projecting a trained and ready force anywhere and anytime. Some posts serve as training centers for basic training, advanced soldier training, or officer skill training. Some installations, such as Fort Irwin and Fort Polk, provide the basis for maneuver training exercises. Depots provide for specialized supply or maintenance activities. Still other sites are home to various technical laboratories, such as the Waterways Experimental Station in Vicksburg, Mississippi, and the Construction Engineering Research Laboratory at Champaign, Illinois. Other installations, such as Fort Hood, Fort Bragg, and Fort Campbell, are base installations for combat forces and serve as power projection platforms from which the Army will project its forces, when ordered to deploy into contingency operations.¹⁶

Installations are as unique as the units that occupy them and the regions of the world where located. They include depots, training posts, power projection, and power support platforms. Such generic labels may cause some to think such installations are mirror images of one another. However, that would be a totally erroneous conclusion. For example, consider Fort Hood and Fort Bragg. Both are large power projection platforms, yet the characteristics and requirements of the tenant organizations make them very different installations. Fort Hood is home to III Corps headquarters, as well as two heavy maneuver divisions (1st Cavalry and 4th Infantry Divisions). Their training and deployment requirements are very different from the training and deployment requirements of the XVIII Corps or the 82nd Airborne Division at Fort Bragg. Likewise, both Fort Leonard Wood and Fort Jackson are training posts; yet, each produces different skills at various levels of training. The tenant organizations on installations, the communities that surround them, and the local environment all contribute to make each installation

unique. These unique characteristics create different challenges that require tailored organizations and creative solutions based on ever changing requirements. Although installations may perform similar functions, no two are alike. A former Assistant Chief of Staff for Installation Management enjoyed saying, "when you've seen one installation, you've seen one installation."¹⁷

Managing the Sustaining Base.

Past Army initiatives have attempted to deal with the challenge of managing installations as efficiently as possible. Sustaining base leaders have given little attention to methods of improving the effectiveness of programs, policies and resourcing provided by the upper areas of the sustaining base. Installation management proponents, seeking to improve operational efficiency, experimented with methods and systems to manage the Army's infrastructure. In this process, they attempted to regulate the organization of garrison staffs, realign functions, and dispose of installations. They have leveraged private industry and contracted for services that government employees have traditionally provided. Sophisticated computer models helped analysts to depict the condition of facilities and forecast operational costs. These initiatives yielded various degrees of success. Some have demonstrated the potential to enable transformation, while others have fallen short of the mark.

The Army tried to establish an efficient organizational structure by taking a cookie cutter approach when it published Army Regulation 5-3, Installation Management and Organization, in 1978. That regulation provided a generic organization and functions manual for all Army installations. Garrisons were to establish staff organizations with Directorates for Personnel and Community Activities (DPCA), Plans, Training and Mobilization (DPTM), Logistics (DOL), Engineering and Housing (DEH). These directorates loosely related to the

G-1, G-2, G-3, G-4, and special staff of a maneuver division. This structure proved useful in combat, but less effective for the “city management” operation performed by garrison commanders.

The Assistant Chief of Staff for Installation Management realized that installations vary widely, and in 1994 he rescinded the old regulation and replaced it Field Manual 100-22, *Installation Management*. This manual described general functions performed by installations.¹⁸ Installations took the opportunity to experiment with a variety of staff structures. Fort Bragg and Fort Campbell adopted a business center approach that combined common activities such as military police, fire, and ambulance into a public safety business center. They also integrated their contracting offices, civilian personnel, and resource management activities into a common installation business office, and combined other related functions. Fort Hood took a different approach and leveraged Corps-level assets with garrison responsibilities; for example, the leaders there combined the DPTM with the Corps G-3, and tasked the Corps Support Command to manage storage and control functions at installation ammunition storage points. Fort Leonard Wood established both a Directorate of Military Personnel and a Directorate of Community and Family Activities by separating its personnel functions from the community activity directorate. These examples illustrate that there are a number of organizational possibilities for installations. The common denominator in all these examples is the ability of the local commander to recognize which activities and services are necessary to fulfill the mission, and then to establish an organization capable of adapting to new or changing demands.¹⁹

A separate initiative that impacted garrison operations was privatization. For more than 2 decades, senior defense leaders have sought reductions in the size of government overhead by letting private contracts for installation functions.²⁰ The Army referred to its privatization programs by a variety of names, including; Commercial

Activities, A-76 (taken from the OMB Circular A-76, Commercial Activities), and Competitive Sourcing. The privatization process requires installations to compare in-house (civil service) workforce operating costs to the cost of contracting for the same services through private industry. Garrisons must prepare a performance work statement that specifies the tasks, conditions, and standards required for the service under study. The Army solicits competitive proposals from private industry. While the commercial market prepares and submits contract bids, the organization (e.g., Directorate of Logistics, Public Works, etc.) must reengineer its workforce in accordance with the work statement and attempt to establish itself as the Most Efficient Organization (MEO). Finally, the Army selects the "best value," as defined by the lowest comparative cost between the government and private proposals.²¹

The premise of reengineering an organization to maximize efficiency is a worthy goal. However, the process must not compromise organizational effectiveness. The civil service workforce contributes more to the organization than simply the basic duties written in their job descriptions. The most important contribution it provides is its ability to receive information from the work environment (customers, fellow employees, community, etc.), interpret that information according to the organization vision, generate flexible options, and make decisions. In others words, government employees are more valuable for their intelligence than simply their job descriptions. Individual intellect is fundamental to developing the network of organizational intelligence that is required for transformation.²² The civilian component of the Army is a dedicated, loyal, and enduring resource. They perform the duties that they were hired to do on the installation, as well as many other "duties as assigned" that accountants and human resource managers fail to measure. These dedicated professionals, from warehouse workers to road maintenance crews to budget analysts, are loyal

ambassadors of the army to their communities. Their innovations and suggestions contribute to the continuous improvement of posts, camps, and depots, where they work. When a private firm replaces government labor, that "in-house" intelligence resource is lost. People will continue to perform the required tasks specified in the terms of a negotiated contract with a company that depends on a profit margin. However, the people will do those tasks as employees whose allegiance is to the contractor.

The budgeting process for the Army's sustaining base is another challenge. As the Army proponent for installations, the Assistant Chief of Staff for Installation Management distributes the resources budgeted by the Department of the Army through the Major Commands to the various installations. Using a system known as "AIM-HI" (not an acronym, but the name of the program), the ACSIM determines what base operations costs should be, based on the tenant units' organizations, as well as the number and types of facilities located on the installations.²³ Figure 1 depicts the key aspects of "AIM-HI." Generally, "AIM-HI" calculates costs by comparing the real property inventory (list of the facilities on an installation) to the strengths of tenant organizations. The "AIM-HI" model deducts the tenants' authorized square footage of facilities from the installation's real property inventory. That calculation usually shows that an installation has more square footage than is authorized for the units. The model also deducts the installation's excess square footage from its overall real property inventory and the difference becomes the programmed inventory. The smaller programmed inventory figures form the basis for budget analysis purposes. Numerous algorithms are used by "AIM-HI" to establish projected square foot costs for various facility categories. The projected costs are applied to the programmed inventory to establish the basic base operations funding budget-level for an installation.

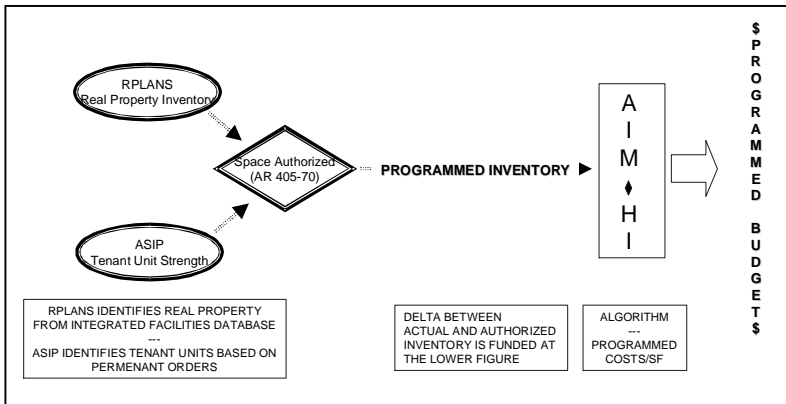


Figure 1. AIM-HI Flow Diagram.

The costing models used by ACSIM do not reflect the requirement realities at the installation level. Different management systems with greater ability to determine all of the costs associated with a service or activity are necessary to support intelligent decisionmaking and determine budget requirements. There is an alternative to the traditional manufacturing approach to costing that is reflected by "AIM-HI." Innovative industrial leaders have adopted operational management tools such as activity based costing and service based costing. These cost management systems recognize change in both external markets and internal operations and provide information concerning the impact of those changes on quality and costs of an activity or service. Activity Based Management provides a more accurate cost picture by identifying cost drivers (e.g., labor-hours, machine hours, etc.) and measuring the performance output of the activity, as Figure 2 illustrates.²⁴ This costing method is a valuable means of measuring the effectiveness and efficiency of activities performance and the total production costs of those activities.²⁵ Sustaining base leaders make better decisions when they know what things cost and why.

Some installations have incorporated activity and service based costing measures into their resource

management activities. Fort Hood implemented Activity Based Management to gain the insight and flexibility needed to transform its garrison operations to meet its requirements. Leaders must know the true costs of activities in order to make informed reengineering decisions. This method of tracing cost sources associated with each activity helps to discover opportunities for cost improvements. Identifying improvement opportunities is crucial to developing and building a continuous improvement plan.²⁶ Pittsburgh University Business Professor Narcyz Roztocki recommends using Activity Based Management when four conditions exist: overhead is high, products (services) are diverse, costs of errors are high, and competition is stiff.²⁷ Those criteria certainly apply to the army's installation management.

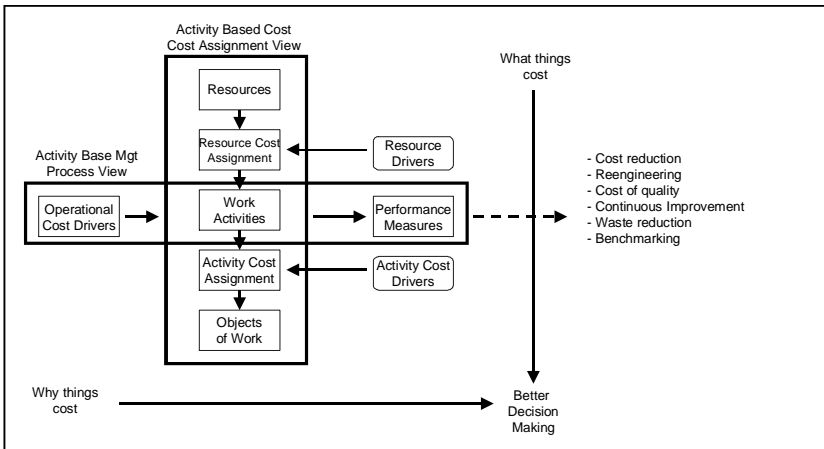


Figure 2. Activity-Based Management Model.

The Assistant Chief of Staff for Installation Management also developed the Installation Status Report (ISR) system. Commanders use the ISR to report the conditions of their facilities, environmental programs, and installation services to higher headquarters.²⁸ Army leaders patterned the ISR after unit status reports. Combat leaders are familiar with the unit status reporting system. Therefore, the ISR used a similar reporting format with

C-ratings equating to readiness capabilities. Part 1 of the ISR measures quantity and quality of various types of facilities at each installation. The quantity of facilities measures the installation's ability to provide for mission requirements. The quality measurement, based on a published standard developed by the U.S. Army Corps of Engineers, provides a fair picture of the existing conditions of the infrastructure. What this system does not provide is the ability to anticipate future requirements. No methods exist to assist leaders in determining what construction projects might improve the infrastructure's mission readiness. Part 2 of the ISR provides an excellent management tool for identifying and monitoring efforts to restore, secure, and protect the environment at individual installations. Part 3 of the ISR (Services) attempts to establish a minimum level of a common set of services that any installation should provide. Unfortunately, identifying and defining services provided by the sustaining base, and establishing conditions and standards to measure those services has been a difficult task. This segment of the ISR remains under development.

A major improvement in sustaining base management came in 1993 when the Army Communities of Excellence program adopted the Malcomb Baldrige criteria for organizational excellence as its means of evaluating quality at army installations. Before 1993, ACOE enticed installations to improve their physical appearance. As a result, they painted the street signs brown and painted the rocks white. Garrisons gave inspection teams "red carpet" treatment as the teams judged installations on appearance and a very subjective evaluation of customer service.

The Army Performance Improvement Criteria (APIC), based on Malcomb Baldrige measures, created a structure for managing and measuring performance planning, assessment, and training. The criteria stressed the importance of an integrated quality system that included leaders, employees, and customers working together to improve performance and service. It provided a framework

for performance excellence. The core values and concepts of APIC are embodied in seven categories: leadership, strategic planning, customer and market focus, information and analysis, human resources, process management, and results. Figure 3 illustrates the category relationships. The system comprises the six categories in the center of the figure underpinned by information and analysis necessary to measure performance and identify areas of excellence, as well as areas needing improvement. Leadership, strategic planning, and customer and market focus form a leadership triad for senior leaders to focus organizational efforts on effective service, and seek future opportunities for the organization. Human resources, process management, and measured results form the results triad. An installation's employees and its key processes accomplish the mission of the installation. The interrelations of these two triads generate the organizational intelligence and effectiveness of an organization.²⁹

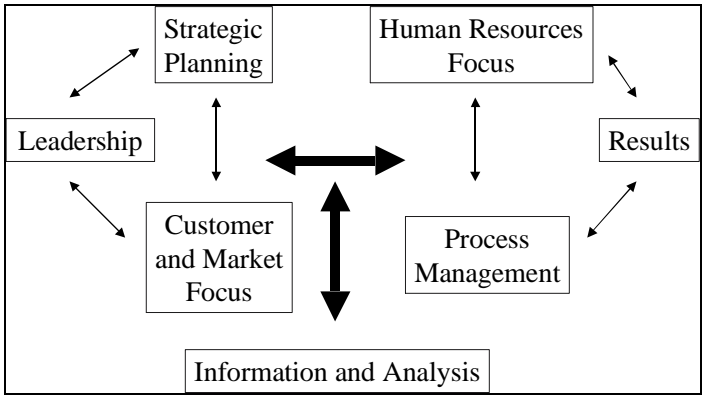


Figure 3. APIC Framework.

The Army Performance Improvement Criteria did not assume that all installations were the same. It did not prescribe rigid techniques that demanded conformance to a cookie-cutter set of rules. The criteria provided a results-focused framework for management to use in organizing for change. It also offered a means for assessing

performance against demonstrated quality. It established a common language to encourage dialogue within and without the sustaining base community.³⁰ The criteria provided a nonlinear approach to reengineering sustaining base management at the installation level. In short, APIC is a structure for sustaining Base Transformation.

Some of the past installation management approaches, particularly privatization and resource management initiatives, fail to support transformation. They lack the flexibility and organizational framework to factor in local conditions, anticipate changes, and respond to emerging requirements associated with a transforming army. These are the very conditions that McMaster warns against in his book, *The Intelligence Advantage: Organizing for Complexity*. When leaders manage organizations as machines and design their organizations as rigid, linear structures, then guidance and communications become hierarchical and directional. Under these conditions, McMaster wrote, "There is no allowance for creativity or intelligent reaction to unpredictable changes in the environment."³¹ With further refinement, other initiatives (such as the ACSIM, ISR, and APIC) provide a sound base to begin the transformation of the sustaining base.

Transformation Obstacles.

A quick look at the ACSIM web site reveals a number of initiatives to improve the efficiency of installations, but there are some institutional obstacles to transformation. An information paper entitled "Reengineering the Installation Garrison" describes the ACSIM's current position on installation management.³² That paper discusses many ongoing challenges at installations. The author of the paper argues that garrisons developed over the course of the Cold War—an erroneous view. Actually, since the beginning of the Army, garrisons have housed soldiers and provided areas to train and drill troops, facilities to repair and

maintain equipment, and bases to project force against potential threats.

Time has not changed these basic functions. "Reengineering the Installation Garrison" discusses the changing nature of the world and the Army and emphasizes that "business as usual will not succeed." It accurately describes those garrisons with rigid stovepipe functional structures as inefficient organizations that resisted change and failed to serve their customers' needs. The paper argues that rigid compliance to bureaucratic processes is no longer acceptable. Actually, it was never acceptable, but only tolerated because no one offered alternatives. It concludes that garrisons must change to better focus their energies on core competencies. Many of the points made by the ACSIM paper are valid and deserve attention. However, the attitude and focus of the paper itself demonstrates two of the major obstacles to achieving sustaining base transformation. First, the paper reveals a prevalent and misplaced attitude in the higher echelons of the installation management community, when the writer states: "Installation garrisons are businesses."³³ In fact, garrisons are not businesses any more than city governments are businesses. Garrisons are service providing organizations and tactical-level caretakers of army infrastructure.

The danger of taking a business view of the sustaining base is to forget that it is a vital enabler of the Army's combat forces. Army leaders would never consider demanding that a maneuver brigade radically change the way it fights without also considering required changes in doctrine and the support structure. Neither should they expect installations to change without considering the entire sustaining base structure.

The tone and focus of the ACSIM paper illuminates the second obstacle to transformation—the tendency to focus solely at the installation level. The author of that paper, perhaps inadvertently, merely provides "go and be filled" advice to garrisons that are grossly underbudgetted to care

for requirements. The apparent opinion of many sustaining-base leaders is that the key to fixing the sustaining base management problems is at the installation level. They seem to think one can correct the problems of costly overhead, tight budgets, and poor customer service, if installations are more efficient. Regardless of how efficient garrisons attempt to become, the management structure limits real progress. Major progress will require all aspects of the sustaining base to change.

There have been innovative improvements at installations throughout the Army. Even though garrisons are not businesses, there are potential benefits from utilizing relevant business practices. There is still unexplored room for improving garrison operations, but it is time to analyze and reengineer every level of installation management.

Transforming the Sustaining Base.

The transformation vision recognizes the potential for many different outcomes.³⁴ Army transformation depends on an organizational structure that maximizes communications and encourages dialogue that will recognize change and make instant innovative responses.³⁵ It is a nonlinear development with unpredictable results, but it is not chaos.³⁶ It requires a special form of leadership and structure. The leader's role is to establish a flexible structure that can recognize shifts in external conditions and empower the organization to respond effectively. The organization's structure must be permeable to allow the organization to recognize environmental changes and communicate necessary actions, but strong enough to maintain integrity of purpose and focus on the organization's vision.

Organizational intelligence is a key enabler of transformation. The installation's workforce is the key to organizational intelligence. Organizational intelligence requires the knowledge and innovation that each member

can contribute. Networked ideas by all personnel are critical to develop intelligence in the organization. Privatization eliminates the fundamental resource of intelligence: the in-house workforce. Private industry has discovered how valuable individuals are for reengineering. David Gonzales, director of physical facilities at the University of California, Santa Barbara, stated the preferred position of the Association of Higher Education Facilities Officers when he wrote that "contracting is not an option" for maintenance employees in the University of California system.³⁷ Certainly contracts can be negotiated to perform functions, but the loyalty and mental innovation of in-house employees cannot be replaced. The reason that Mr. Gonzales rejected contracting was the cost of losing the innovative capacity of the in-house workforce. All of the employees are members of his reengineering team. They contribute valuable ideas that improve organizational effectiveness. They are encouraged to share their thoughts and empowered to make changes. Privatization studies ignore the power of organizational intelligence. However, it is the source of energy that will unlock transformation. If private industry has recognized the value of retaining its own capable workforce, the government should carefully reconsider its fascination with privatization.

Another requirement to enable transformation is to change the budgeting process. Installation operations must be resourced through a nonlinear budgeting system. The costing model currently used is a traditional, linear cost analysis approach to resource management. That system is not capable of rapidly recognizing and providing for the ambiguous changes that occur at installations. A new costing approach is necessary to enable the sustaining base to transform. The Installation Status Report can provide the first step toward fully implementing Activity Based Management throughout the sustaining base. For example, installation services are defined and minimum standards are identified in part 3 of the ISR. Costing measures could

be applied to the services identified in the ISR and used for Activity Based Management and budget planning.

A key vehicle for transforming the sustaining base is Army Performance Improvement Criteria. However, it must be vastly expanded beyond the installation level. After more than 7 years of emphasis on performance improvement, sustaining base leaders continue to struggle with an obsolete and aging infrastructure. The shortfall should not be blamed on APIC itself. The problem has been a short-sighted implementation of the criteria. Senior leaders applied this reengineering tool to one level of the installation management system (the installations themselves) while ignoring the remainder of the components (MACOMs and HQDA). In fact, APIC is an excellent tool to instill organizational intelligence. It is time to imbed the APIC framework throughout the sustaining base system, from the installation up to the ACSIM, and reengineer the entire installation management structure. APIC should be delinked from the Army Community of Excellence (ACOE) program. ACOE served a useful role in generating interests in reengineering and improving base operations. However, it has become a competition for bragging rights between installations rather than a tool for self-improvement. The time has come to eliminate ACOE as a program, and use those funds to defray base support costs.

Finally, for the Army to achieve meaningful Sustaining Base Transformation, it must reengineer the entire installation management community. Garrison commanders are admonished to identify and eliminate redundant activities at installations. However, the higher echelons maintain redundant installation management staff sections at most of the Army's MACOMs. Eliminating those staffs and consolidating the installation management responsibilities of the Army under a single Sustaining Base Command would result in significant savings, as well as effectiveness. One possibility would be to expand the role of the ACSIM to assume both command and staff responsibilities, similar to the Surgeon General or the Chief

of Engineers. In his staff capacity, ACSIM would serve as the principal installation management advisor to the Chief of Staff of the Army. Additionally, the ACSIM would serve as the Commanding General of a newly created MACOM—the Sustaining Base Command. All garrisons would report directly to the Sustaining Base Command. All other MACOMs would be relieved of their installation management responsibility, permitting them to focus on their Title 10 responsibilities to ensure that equipped, trained, and ready forces are available for deployment. Only the Sustaining Base Command would require a base operations support staff, since the other MACOMs would no longer manage the funds for base support programs. Instead, the sole mission of the Sustaining Base Command would be to ensure that army installations support force readiness, power projection and sustainment requirements. The command would be capable of distributing resources for budgeted requirements directly to the installations. The Sustaining Base Command improves the effectiveness of sustaining base management by reducing the lines of communications between policymakers and executors. The organization is more efficient than the current structure because it would eliminate intermediate layers of redundant staffs at the various MACOMs and reduces the funding pipeline as resources flow directly from the ACSIM to the installations. A flatter organization in the installation management community would be more effective and more efficient than the current structure.

Conclusion.

The sustaining base of the transformed Army will be challenged to provide training facilities and ranges, maintenance facilities, and support structures to deploy and sustain the highly mobile objective force. This will require flexible installation organizational structures capable of recognizing changing requirements, and rapidly responding to those requirements. Only the total transformation of every installation management area will

result in the needed ability to adapt to new demands and changes.³⁸ Innovative leaders must guide flexible, intelligent organizations that are constantly striving for excellence. The Chief of Staff of the Army has boldly rallied the Army to embrace change and transform itself into a land force of sustained relevance. The transformed Army (including active and reserve components) will create new and different demands on the infrastructures that support power projection, training, maintenance, force protection, and quality of life. Those demands must be anticipated and posts, camps, and stations developed to support those needs. The enduring nature of the Army installations continues to reflect the good order and discipline of the service. However, as sure as the Army is challenged by inevitable transformation, the process by which Army manages its posts, camps, and stations must be revolutionized. A transformed sustaining base is necessary in order to support a transformed Army.

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CHAPTER 10

PROJECTING INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE IN SUPPORT OF THE INTERIM BRIGADE COMBAT TEAM

Stephen P. Perkins

The Initial Brigade Combat Team (IBCT) gains its lethality and survivability from maneuver and maintaining positional advantage over an opponent. To capitalize fully on the tremendous capabilities of the IBCT, the organization must achieve superior situational understanding. Military Intelligence is a major contributor to achieving this capability.

Major General John D. Thomas¹
Commandant
U.S. Army Intelligence School

The Chairman's Joint Vision (JV) 2020 calls for a 21st century joint force capable of achieving full spectrum dominance in peace and war, and in any form of conflict.² As first articulated in JV 2010, full-spectrum dominance aims at harnessing the potential of the information revolution. Evolving concepts of dominant maneuver, precision engagement, focused logistics, and full dimensional protection will replace today's capabilities of maneuver, strike, logistics, and protection.³ Above all, the achievement of full-spectrum dominance rests on the ability of intelligence, surveillance, and reconnaissance to provide friendly forces with situational understanding, which allows them to achieve decision superiority.

Likewise, situational understanding is the fundamental force enabler across all Interim Brigade Combat Team⁴ battlefield operating systems and is the foundation for risk mitigation with respect to its vulnerabilities, particularly the lack of substantial armor protection. The Interim Brigade (Figure 1) will employ an integrated suite of

intelligence, surveillance, and reconnaissance capabilities and digitized battle command systems to develop and disseminate a common operational picture throughout its units. That picture, in time, will lead to situational understanding. As the commander applies judgment and experience, he attains decision superiority.⁵ Such situational understanding and information superiority will enable the force to avoid surprise, make rapid decisions, control the time and place for combat, conduct precision maneuver, shape the battlespace with precision fires and effects, and achieve decisive outcomes.⁶

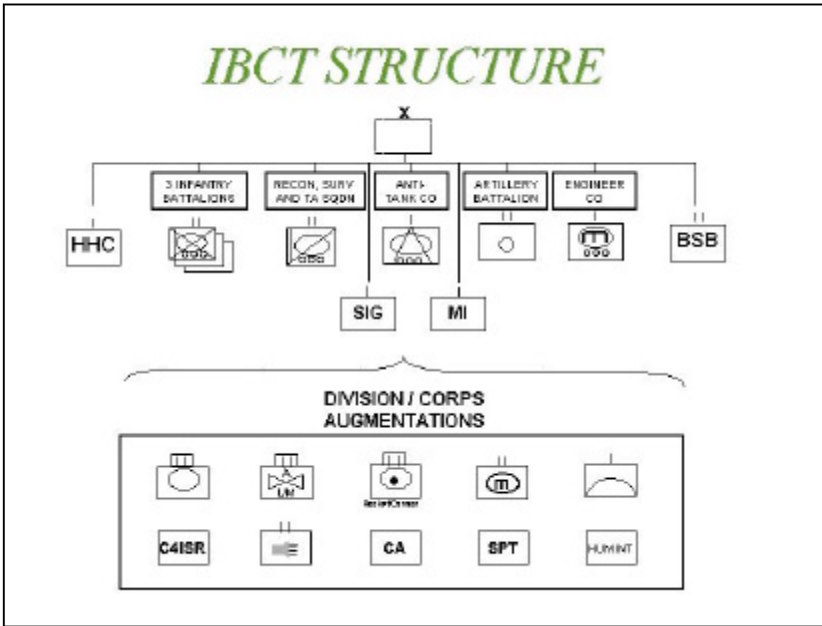


Figure 1. Interim Brigade Structure.

Thus intelligence, surveillance, and reconnaissance support is most important to the Interim Force. It requires a coordinated effort by the Intelligence Community⁷ (services, joint, and national/interagency) to provide an Army or Joint Strike Force⁸ with the ability to achieve intelligence superiority throughout the battlespace. This chapter will look at possible scenarios that could face the

Interim Force, and the capabilities of current and planned intelligence, surveillance, and reconnaissance assets within the Army to address such threats. Finally, it will offer recommendations aimed at increasing intelligence, surveillance, and reconnaissance support to the Interim Force, and Army Force acting as a part of a Joint Strike or Joint Contingency Force.⁹

THE FUTURE ENVIRONMENT

The Army Transformation Plan projects a complex and multi-polar strategic environment over the next 20 years. There have been more than 50 ethnic wars, over 150 border conflicts, and two major wars involving extra-regional forces over the past decade.¹⁰ It is not likely that the role of the United States will diminish over coming decades. If anything, America's global engagement may increase as the world comes to grips with a more complex, uncertain, and challenging future. Although the United States does not confront a single conventional military power capable of threatening its security, the establishment of regional alliances as well as changing priorities of other nations could change the strategic environment and lead to situations that would represent a direct threat to the national security interests of the United States.¹¹ Moreover, "many of the threats to our interests through 2010 and beyond will fall into (the) gray area of "important" but not "vital."¹²

Asymmetric threats may result from the proliferation of transnational crime, terrorism, and illicit drug trafficking, as well as from traditional military forces that are at a significant technological disadvantage compared to the United States. National security concerns may stem from shortages of critical resources (oil, water) and environmental problems (pollution, proliferation of nuclear and chemical agents). Potential state and nonstate challengers are studying the American military and

adapting their capabilities to neutralize U.S. military advantages.¹³

One author sums up the future threat:

The soldiers of the U.S. Army are brilliantly prepared to defeat other soldiers. Unfortunately, the enemies we are likely to face through this decade and beyond will not be "soldiers," with the disciplined modernity that term conveys in Euro-America, but "warriors:"¹⁴ . . .

(W)arriors do not play by our rules, do not respect our treaties, and do not obey orders they do not like. The warrior is back, as brutal as ever and distinctly better armed.¹⁵

The adaptive and unpredictable nature of external threats along with the strategic need to reach "trouble spots" around the world prompted the Army to seek development of rapid, decisive capabilities. Some observed a near-term capability gap in the Army's ability to ensure that the president and regional commanders-in-chief (CINCs) have the full range of ground options necessary to operate in an uncertain environment. Moreover, the Army must be capable of operating in a joint, interagency, and multinational environment.¹⁶ Specifically, the deployment of Task Force "Hawk" to Albania for Operation JOINT FORCE displayed the difficulty moving a heavy Army force to a contingency area within the time constraints of a major crisis.¹⁷

The most challenging scenario for American forces and the Intelligence Community lies in a nonlinear, asymmetric battlefield that encompasses America, its allies, and a geographic command's area of operations. Major General Robert Scales (U.S. Army, Retired) in his article, "Adaptive Enemies," argues that the United States is "adverse to casualties and collateral damage, sensitive to domestic and world opinion, and (has a) lack of commitment to conflicts measured in years rather than months."¹⁸ Future scenarios, which have high casualty rates, may push the limits of popular support of the American people. A future

conflict may involve attacks against the continental United States(CONUS); intermediate staging bases used by military forces; and ship movements from CONUS to a theater. American forces will face an array of enemies skilled in urban combat, mechanized warfare, and guerrilla tactics.

The use of intelligence to understand the threat to U.S. military forces is essential to counter the dynamic and pervasive threats of the future. "There can be no question but that information and intelligence qualify as a dimension of strategy, statecraft, and war. The perspective strategic effect likely to be harvested from superior information and intelligence, however, has varied radically with the salient technologies, politics, geographies, and logistics of war."¹⁹ We are in a time where America's enemies will attempt to deny the United States access to information and intelligence. A "system of systems" approach, using the Interim Brigade as a building block, will attempt to overcome this threat. The challenge to the Intelligence Community is to harvest the vast amounts of information and ensure commanders are not overwhelmed or deceived during their decisionmaking process.

TRANSFORMATION REQUIRES INCREASED INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE CAPABILITIES

The dynamic nature of the future battlespace challenges all of the battlefield operating systems. However, the intelligence battlefield operating system has the mission of providing the Interim Brigade's situational awareness that is critical to dominate maneuver and precision strike requirements. The doctrine, training, leadership, organization, materiel, and soldier (DTLOMS) model provides a framework for the evaluation of Interim Brigade's intelligence, surveillance, and reconnaissance support. Based on the Army's need to increase its power projection capability, the Interim Brigade addressed organization and equipment in an effort to reduce its size while enhancing its lethality and cohesiveness.

Organization and Equipment.

The Interim Brigade's organization is uniquely information-centric. It embeds intelligence, surveillance, and reconnaissance to the lowest levels and throughout the organization. The addition of a Reconnaissance, Surveillance, and Target Acquisition Squadron²⁰ allows the Interim Brigade to "see, know, and understand the operational environment in detail, instead of applying traditional reconnaissance, focused primarily on enemy forces, with the objective of creating an umbrella of understanding . . ."²¹ Figure 2 displays the nature of systems across the spectrum of operations. The center oval highlights the full-spectrum environment in which the Interim Brigade operates and the requirement to address all intelligence disciplines to meet the variety of challenges that an adversary may possess. Together with infantry patrols, Recon Squadron operations are an integral part of the Interim Brigade's intelligence gathering efforts. Recon Squadron operations integrate with the activities of the infantry battalion reconnaissance platoons and other intelligence, surveillance, and reconnaissance assets managed at brigade level. The squadron employs trained human intelligence and counterintelligence experts to complement existing sensor capabilities that are more suited for open terrain and unit/force-based information.²²

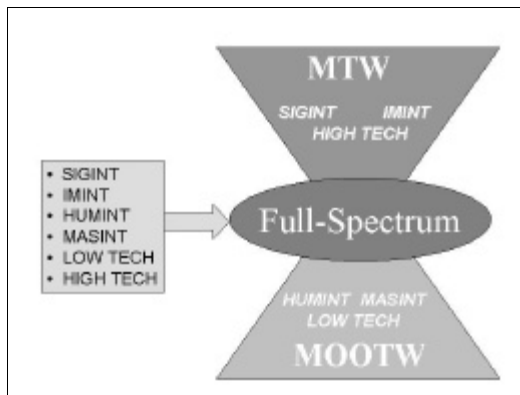


Figure 2. Spectrum of Operations.

The Recon Squadron contains enhanced capability to perform conventional reconnaissance by using stealth, fighting for information, and using human intelligence assets. It prefers to use stealth for both the conduct of traditional reconnaissance against conventional formations and while interacting with the civilian community. The Recon Squadron fights for information when the tactical situation requires. The squadron usually conducts this mission under high-risk conditions involving limited and local attacks while avoiding decisive engagement. The Interim Brigade's robust human intelligence assets can obtain an in-depth understanding of its area through direct interaction with special police, politicians, military/paramilitary organizations, nongovernmental and international organizations, and groups within the populace.²³

The second key intelligence player in the Interim Brigade is the military intelligence company. The company consists of a company headquarters element, an analysis platoon, an integration platoon, and a tactical human intelligence platoon.²⁴ It essentially operates as an extension of the brigade intelligence staff (S-2) for internal and external management of intelligence, surveillance, and reconnaissance collection assets. It provides analysis to support the development of the Interim Brigade's common operational picture, targeting/effects, and intelligence preparation of the battlefield. The company contains organic systems necessary to interface with intelligence, surveillance, and reconnaissance systems resident at division, Army Force, joint, theater, and national levels, and supports the tactical human intelligence activities required in the small scale contingency environment.²⁵

Key among the Interim Brigade's intelligence, surveillance, and reconnaissance features will be the use of a standard vehicle, making maintenance and services easier. The brigade must balance the ability to deploy rapidly with the capability of dominating the situation, when it arrives on scene. Intelligence must reduce its sustainment requirements, minimize its personnel and

logistical footprint, use common vehicular platforms, and accomplish more of its functions out of theater and “reach-back”²⁶ to higher echelons within the Joint Contingency Force or within the United States.²⁷ The integration of counterintelligence and human intelligence into the Recon Squadrons will allow for better understanding of intelligence, surveillance, and reconnaissance capabilities and better integration into the common operating picture.

The Interim Brigade has the newest military intelligence systems and offers a true multidiscipline capability. While the signals intelligence capability of the tactical commander is different, it addresses the brigade's dynamic operating environment. Specifically, the Interim Brigade's Prophet signals intelligence systems will evaluate “internal” signals characteristics to “map” the enemy situation.²⁸ Currently, most units deploying to the combat training centers have signals intelligence systems attached or in a general support reinforcing role. Based on the complexity of current signals, the Interim Brigade must have special purpose systems to truly exploit signals or must export “external” signals to a higher echelon for exploitation.²⁹ Due to the limitations of legacy signals intelligence systems, the Prophet-Ground systems organic to the Interim Brigade provide a better capability to collect and jam. At division-level, Prophet-Air systems will eventually fill the void created by the transition from Quickfix II collection and jamming helicopters (EH-60A). Prophet-Air will use a unmanned aerial vehicle platform that has a “plug and play” capability, allowing for a change from a signals intelligence mode to infrared/electron-optical collection. The Prophet-Air platforms at the Interim Division-level require a “Hunter”-like range (150 kilometers) vice the tactical unmanned aerial vehicle (50 kilometers).³⁰

The success of the Interim Brigade's intelligence, surveillance, and reconnaissance effort is extremely dependent on the signal community's ability to provide a

broad bandwidth backbone for dissemination and collaboration. The creation of the Trojan-network for Operation DESERT STORM was military intelligence's answer to the same shortfall in 1991. Additionally, the common operating picture will require a near-real time input capability for the collectors of information. The Army should equip counterintelligence and human intelligence teams with personal digital assistants ("palm pilot") to record information and make reports.³¹ The signal backbone must allow for remoted inputs, instead of tying teams to their vehicles. The bandwidth of signal equipment must continue to grow to enable thorough and efficient dissemination and flexible reachback.

Using the Joint Strike Force as a model for future of joint forces and a potential higher headquarters for the Interim Brigade and its Interim Division, it is essential for Intelligence to integrate the intelligence, surveillance, and reconnaissance assets for the Interim Brigade with all intelligence, surveillance, and reconnaissance theater and national-level assets and analytical headquarters to create a relevant common operating picture. The Interim Brigade must be a part of the joint collaborative community. The concept for the Joint Strike Force relies on sensor maneuvering, networking and cross-cuing to enhance its situational awareness and understanding.³² The Interim Brigade's intelligence, surveillance, and reconnaissance resources are an essential part of this multilayered, multifunction sensor network. State-of-the art computer systems and networks enable the Interim Brigade analysts to be a part of this collaborative network. As unmanned aerial vehicles, unmanned ground sensors and robotic vehicles become a part of a more mature Interim Force, all sensors must integrate to ensure commanders and their staffs have a relevant common operating picture.

The search for a "God's eye view" of the battlefield requires integration of division, corps, and theater intelligence assets. The Interim Brigade depends on these levels to provide nonorganic collection and for additional

analytic support. The Interim Division's military intelligence battalion will provide multidisciplined intelligence support to the division, including communications intercept, direction finding, electronic countermeasure, and limited surveillance. It will provide the division analysis and control element, which normally locates in the sustainment command post but responds to the division intelligence officer (G-2) in the main command post.³³ The military intelligence battalion uses unmanned aerial vehicles, counterintelligence and human intelligence teams, processing resources, and the division analysis and control element to gain the situational understanding necessary for maneuver dominance and precision strike. The Interim Brigade and Interim Division may receive intelligence support from the corps military intelligence brigade. Currently, a typical Corps intelligence brigade provides analytic support, additional aerial exploitation assets (unmanned aerial vehicles and Guardrail Common Sensor aircraft), and may have counterintelligence and human intelligence and long-range surveillance teams assigned.³⁴ A Theater Intelligence Brigade, under the command of the Army Intelligence and Security Command and under the operational control of the Army Service Component Command may deploy all or part of the brigade to conduct theater level multi-discipline intelligence and security operations in support of Army components of regional CINC's as directed during war and security and stability operations.³⁵ The generic Theater Intelligence Brigade has an analytic, counterintelligence and human intelligence collection and exploitation capability, and provides aerial signals intelligence and imagery intelligence using a one-of-a-kind aircraft (DeHavilland Dash 7).³⁶

Doctrine.

The Interim Brigade will incorporate the five key principles of intelligence support to force projection: commander driven intelligence; intelligence synchroni-

zation; split-based operations; tactical tailoring; and broadcast dissemination.³⁷

First, the Interim Brigade focuses on the acquisition of intelligence as its first priority, allowing low density/high demand intelligence, surveillance, and reconnaissance resources to target the most important areas of interest. Since the common operating picture requires the efficient use of intelligence, surveillance, and reconnaissance, commanders must tie their priorities to available resources. Second, using organic intelligence systems, the Interim Brigade will have to “hook” into the intelligence hierarchy of systems. The intelligence “system of systems” construct allows for the synchronization of the entire intelligence, surveillance, and reconnaissance apparatus and a better common operating picture. When the Interim Brigade, operating as part of a joint force, is the initial Army unit in theater, intelligence synchronization is essential. Third, the lack of airlift sorties and the requirement to get to the battlefield within 96 hours makes split-based operations for all battlefield operating systems a critical feature of the Interim Brigade. Using rear command posts in “sanctuary,” the Interim Brigade can gain valuable information from the entire Intelligence Community using “reach-back” capabilities.³⁸ Recent experiences in Bosnia, Kosovo, and Kuwait underline the importance of split-based operations to the commander and his staff as they conduct assessments of the battlespace. They are able to leverage the expertise and staffing that are available in reach-back locations, regional and national.³⁹ Fourth, while the Interim Brigade is uniquely postured to meet its own intelligence, surveillance, and reconnaissance requirements in small scale contingencies, future scenarios will require more specific assets. A Bosnia-like scenario may require near-real time signals intelligence collection that does not reside in the Interim Brigade. Using “tactical tailoring” techniques and “standing” force enhancement modules, the Interim Brigade could integrate special-purpose built systems that address specific sources (cellular telephones

are a possible example) to exploit in the operational environment. Finally, the capability to pull intelligence from broadcast dissemination systems allows for a common operating picture with more granularity. A high-resolution picture is essential for the Interim Brigade to conduct a multitude of operations across a nonlinear battlefield.

The variety of field manuals produced by the U.S. Army Intelligence Center and School address holistic military intelligence procedures. The challenges facing intelligence derive from the dynamic nature of the intelligence tactics, techniques, and procedures and keeping these tactics, techniques, and procedures in pace with the changing operational environment. Military intelligence units throughout the Army continue to struggle with this problem. New equipment, software, and ideas make the training of soldiers and leaders extremely difficult.⁴⁰ While the Interim Brigade incorporates the principles of the intelligence support, a methodology for updating its doctrine in a timely manner must become a centerpiece of maintaining one of the intelligence's primary features—disciplined operations.

Training.

The Interim Brigade offers expanded opportunities for military intelligence soldiers to conduct the unit's operations. Their ability to work as a team is essential to the Interim Brigade's intelligence, surveillance, and reconnaissance and common operating picture efforts. Brigadier General Richard Quirk, Deputy Commandant of the Army Intelligence School, highlighted the need for better training across the Intelligence Battlefield Operating System stating, "The intelligence soldier of tomorrow will require a professional education; our traditional military training will not be sufficient."⁴¹

The soldier will remain the key independent variable in future operations. Thus, education efforts must blend technical proficiency tasks as the art of intelligence. After

the dissolution of the Soviet Union, analysts addressed a variety of unpredictable threats. The Intelligence School must develop and rigorously institute an educational system focused on future threats and an ambiguous environment.⁴² Education at Fort Huachuca must concentrate more on the “how to think” and less “what to think.” Most units have the expertise to work the latter and can build on a good foundation of the former. Unit training programs must continue to orient on individual and crew drill, but the harder task is developing the soldier’s analytical skills. It is also critical for the intelligence branch to start with intelligent and adaptable people and, even more importantly, to retain them past their initial enlistment.

The Intelligence School must continue its efforts to build web-based education. Using the Army’s warrant officer corps (active, reserve, and retired) as a resource, soldiers should be able to develop and enhance their training through an on-line mentorship program. Although past use of simulations resulted in effective signals intelligence training, the use of simulations for counterintelligence and human intelligence soldiers requires improvement. Counterintelligence and human intelligence expertise is critical to the Interim Brigade’s employment. To be effective, counterintelligence and human intelligence, including the S-2X, must integrate trained teams with the combat forces and train regularly with other federal agencies to gain expertise on their techniques and procedures. Commanders and “warfighters” must gain experience using them and valuing their ability to supply the “human” element. Further, the Intelligence School must work with the other services, joint headquarters, and national agencies to ensure trainee analysts and operators share a common base of knowledge and that service unique tactics, techniques, and procedures are incorporated into simulations. To meet the future challenge, we must have institutionalized joint and interagency education programs in each of the services.

Leadership.

Army transformation requires more than just a change to force structure and equipment. It requires “a new way of thinking.” Key to the transformation is forward-looking leadership. The Interim Brigade structure is a direct result of senior military intelligence branch leaders recognizing the need for a different intelligence, surveillance, and reconnaissance structure in the Interim Brigade. While it would have been easier to put a status quo organization in the Interim Brigade, the Deputy Chief of Staff for Intelligence and the Intelligence School’s leadership exploited the opportunity to build an organization to meet future requirements. The Interim Brigade stretches the system and requires a different way of leading soldiers.

The intelligence, surveillance, and reconnaissance “director” for the Interim Brigade is a military intelligence officer serving as the S-2. This military intelligence officer is critical to the success of the Interim Brigade and the military intelligence branch’s credibility. The Interim Brigade organization tables authorize a major for the battalion S-2 job, and it is critical that a major fill that slot. A common complaint at the combat training centers is “the S-2 is not experienced enough.”⁴³ Often the Army assigns captains to serve as brigade S-2s, because of a shortage of majors. The complexity of the Interim Brigade’s intelligence, surveillance, and reconnaissance effort will require a senior military intelligence officer and a highly trained professional. Military Intelligence branch must assign majors to Interim Brigade S-2 jobs, ensure they are trained to meet the rigors, and assign appropriate branch qualification to successful completion. Recent field-grade training at Intelligence School for Division G2s and Analysis and Control Element Chiefs provides a good start. Additionally, Interim Brigade S-2 should be resident U.S. Army Command and General Staff College graduates, making them equal to their Interim Brigade operations officer (S-3) counterparts.

The Intelligence School must develop an education program for the Surveillance Troop commander and the Interim Brigade's military intelligence company commander. The requirement to act independently or as a part of a Joint Task Force (or Joint Strike Force) dictates a broader knowledge base. The Officer Personnel Management System (OPMS) XXI system may facilitate the assignments and understanding that the Interim Brigade's leaders will need. A new education system, as discussed by General Quirk and mentioned earlier, may address this critical requirement. It is too important to gloss over. Further, the junior military intelligence leaders in the Interim Brigade may face similar challenges and require specific training modules to be added to current and future institutional training. Ultimately, we must change our mindset from, "Leaders are important" to "quality leaders are essential." Unlike our current "alert > train > deploy" approach to war, the "train > alert > deploy" approach will require more of our leaders than previously.⁴⁴

Soldiers.

Despite the evolution of technologies, soldiers will continue to play the crucial role in future conflict. The Interim Brigade, as the lead ground unit into a "hot spot," will demand new and innovative recruitment, training, and retention techniques to man a force capable of meeting the Army's stated goals. As displayed in Figure 2, the upper end of the spectrum of operations is extremely dangerous and the lower end is extremely complicated and dynamic. The small scale contingency environment is as dangerous as a major theater of war and, like a security and stability operations environment, small scale contingencies offer a diverse set of circumstances. Future rules of engagement require situational and cultural understanding by junior leaders and soldiers. The potential impact of flawed decisions at the team- and squad-level has strategic significance and affects American policy. The Interim Brigade's rapid reaction capability will require thorough

training before it assumes a dynamic power projection role, a synchronized effort during deployment, and an ability to fight upon entry into the target area. The intelligence, surveillance, and reconnaissance effort is continuous throughout the deployment process, including in-flight updates and, upon arrival, situational awareness as the analytical footprint expands. The real challenge will be balancing all of the requirements of the soldier.

RECOMMENDATIONS

There are three key recommendations for improving intelligence, surveillance, and reconnaissance support to an Interim Brigade acting as a part of an Army Force, a Joint Strike Force, or a Joint Contingency Force.

- First, the Army must continue to support the new formation of relevant intelligence organizations. The Interim Brigade organization must have the right balance of collectors, analysts, and leaders. It must have organic intelligence, surveillance, and reconnaissance support and the ability to receive force enhancement modules and reach-back to multi-echeloned intelligence organizations and agencies. The Interim Brigade concept addresses the need to put counterintelligence and human intelligence resources at the brigade level. This is critical to addressing the needs of the Interim Brigade and addresses the shortage of Army counterintelligence assets available for stability and support operations. The deactivation of two corps-level tactical exploitation battalions in 1996 exacerbated an already stretched counterintelligence and human intelligence force. While the Army is adjusting its structure from the brigade level and working its way up, it is important to integrate elements of the intelligence battlefield operating system. Concept developers must look at the organization of intelligence resources holistically. Since the structure of the Interim Brigade will require augmentation from Division, Corps, and the Theater Intelligence Brigade, it is essential that these echelons

evolve in parallel fashion to the Interim Brigade and not sequentially. The nesting of missions requires echelon above corps units to develop adaptable force enhancement modules capable of meeting the Interim Brigade's deployment timelines.

- Second, Army intelligence must continue to leverage technology and innovative management techniques and work with the other Services, the Intelligence Community, and international partners to have all intelligence organizations using compatible systems. It must intensify efforts to use the All-Source Analysis System as the common platform for all Army operations. The Army must simplify tactics, techniques, and procedures and share information with joint and international partners. It must continue to develop virtual collaborative analysis as an essential component of intelligence, surveillance, and reconnaissance support to the Interim Brigade. In addition to improving interoperability, training is essential to the Interim Brigade's ability to gain information dominance. Simulations and joint education form the foundation for future training. Recent experiences from the All Services Combat Identification Equipment Tests display the shortcomings of joint intelligence gathering and analysis. Specifically, Marine Corps and Army intelligence analysts cannot create a common operating picture without the Army providing a liaison with an All-Source Analysis System remote workstation. Army and Air Force could not share battlefield damage assessment until the Air Force provided a specific radio with a digital feed.⁴⁵

- Third, Army intelligence must work closely with Army signal to ensure adequate broad-band communications at the lowest level. The Interim Brigade relies on multi-nodal intelligence, surveillance, and reconnaissance inputs to maintain an accurate and relevant common operating picture. Conceptually, the vehicle in the Interim Brigade is not as important as what it represents: an enabler that allows soldiers to act and fight as an internetted, networked, and combined-arms team.⁴⁶ While the use of

Trojan Special Purpose Integrated Remote Intelligence Terminal (also called "Trojan SPIRIT") communications has allowed Army intelligence to meet its split-based operational requirements, Army intelligence used its funds and out-of-hide manning for this communications system. Expeditious fielding of new signal systems is essential to the Interim Brigade's ability to reach-back for intelligence, surveillance, and reconnaissance support.⁴⁷ Signal personnel must be a part of the Interim Brigade's intelligence, surveillance, and reconnaissance structure to maintain intelligence center networking.

CONCLUSION

The end of the Cold War destroyed the balance of power throughout the world, and created instability and uncertainty. The Persian Gulf War was not only a major success for the United States, but it also brought our military new challenges. The decade of the 1990s displayed how unstable the world could be. A number of small scale contingencies, accentuated by the inability of Task Force "Hawk" to meet deployment requirements, highlighted the need for the United States to maintain a lethal, survivable Army, capable of rapid deployment. The Interim Brigade provides the nation with a viable Army option that is capable of winning wars and contributing to peace. Leveraging intelligence, surveillance, and reconnaissance is essential to the Interim Brigade's ability to dominate maneuver and provide precision engagement. Situational understanding, gained by intelligence, surveillance, and reconnaissance, allows all battlefield operating systems to enhance their effectiveness and for the Interim Brigade to mitigate risk.

Recently, the Army Deputy Chief of Staff for Intelligence articulated the mission of Army intelligence mission, "The goal of Army intelligence is to facilitate situational dominance by Army decisionmakers and warfighters. The key to situational dominance is information superiority that

enables the seven operational characteristics of the Army Objective Force: responsiveness, deployability, agility, versatility, lethality, survivability, and sustainability."⁴⁸ A complete intelligence, surveillance, and reconnaissance system will give commanders the ability to face adaptive enemies using myriad advanced technologies to attack the United States asymmetrically using low technology, yet lethal, weapons of the past.

General Shinseki has the Army postured to meet his long term goal, "To adjust the condition of the Army to better meet the requirements of the next century, we articulate this vision: 'Soldiers on point for the nation transforming this, the most respected army in the world, into a strategically responsive force that is dominant across the full spectrum of operations."⁴⁹ While the challenges of the future are daunting, Army intelligence can meet the Chief of Staff's challenge.

The discussion and analysis in this chapter described how important intelligence, surveillance, and reconnaissance support is to the Interim Brigade. Integration of intelligence, surveillance, and reconnaissance sensors provides a relevant common operating picture for analysts throughout the battlespace. Using a collaborative analytical effort, intelligence officers provide their commanders actionable intelligence that supports their decisionmaking. Emphasizing training and the development of leaders, intelligence, surveillance, and reconnaissance's holistic approach will ensure the Interim Force has the ability to operate in the dynamic and violent world of the 21st century.

ENDNOTES - CHAPTER 10

1. Major General John D. Thomas, "VANTAGE POINT: The Initial Brigade Combat Team," *Military Intelligence*, No. 26, April-June 2000, p. 2.

2. Joint Chiefs of Staff, *Joint Vision 2020*, Washington, DC, 2000, p. 5.

3. *Ibid.*, p. 2.

4. After this point, "Interim Brigade" replaces the term "Interim Brigade Combat Team."

5. Colonel Michael Mehaffey, "Vanguard of the Objective Force," *Military Review*, No. 80, September-October 2000, p. 10. The common operating picture (COP) is the current set of command and staff estimates, situation graphics, and other relevant data that are understood by and digitally accessible to all parts of the force.

6. *Ibid.*, p. 10.

7. George J. Tenet, *A Consumer's Guide to Intelligence*, Washington, DC: U.S. Government Printing Office, 1999, p. 44. The Intelligence Community is the aggregate of the executive branch and organizations and agencies involved in intelligence activities: CIA; NSA; DIA; NIMA; NRO; State; four armed services; DOD; FBI; Treasury; Energy; and the Office of the Director of CIA.

8. *Joint Strike Force Implementation*, Final Draft, Colonel Rick Lynch, ed., Institute of Defense Analysis, September 20, 2000, p. 3. The Joint Strike Force (JSF) is a standing joint headquarters assigned to the warfighting CINCs with synchronized, aligned joint mission-tailored forces. The JSF is an innovative approach to commanding, controlling, and employing joint forces to resolve small scale contingencies with the CINC's area of responsibility using rapid and decisive operations in the 2004-2007 timeframe.

9. Department of the Army, *Tactics, Techniques, and Procedures for Brigade Intelligence Operations in a Joint Contingency Force*, Field Manual 34-10-6/ST, Initial Draft-v1.0, Fort Huachuca, AZ: U.S. Army Intelligence Center, February 29, 2000, pp. 2-12. The Joint Contingency Force, or Joint Task Force, is a complex system of personnel, organizations, and equipment.

10. Lieutenant General Larry R. Ellis, Deputy Chief of Staff for Operations, Army Staff, "United States Army Transformation Campaign Plan," memorandum for Under Secretary of the Army, Washington, DC, October 30, 2000.

11. *Ibid.*

12. Major General Robert H. Scales, Jr., *America's Army: Preparing for Tomorrow's Security Challenges*, Carlisle Barracks, PA: Strategic Studies Institute, 1998, p. 4.

13. Ellis.

14. According to Ralph Peters, "warriors" are erratic primitives of shifting allegiance, habituated to violence, with no stake in civil order.

15. Ralph Peters, *Fighting For The Future: Will America Triumph?*, Mechanicsburg, PA: Stackpole Books, 1999, p. 33.

16. Ellis.

17. Colonel Robert C. Owen, and Captain Todd A. Fogle, "Air Mobility Command and the Objective Force: A Case for Cooperative Revolution," *Military Review*, No. 81, January–February 2001, p. 11.

18. Major General Robert H. Scales, Jr., "Adaptive Enemies: Achieving Victory by Avoiding Defeat," *Joint Forces Quarterly*, No. 23, Autumn/Winter 1999-2000, pp. 12-13.

19. Colin Gray, *Modern Strategy*, New York: Oxford University Press, 1999, p. 35.

20. After this point, "Recon Squadron" replaces the term "Reconnaissance, Surveillance, and Target Acquisition Squadron."

21. Mahaffey, p. 11.

22. *Ibid.*

23. *The Interim Brigade Combat Team Organizational and Operational Concept*, Washington, DC: Department of the Army, June 30, 2000, pp. 38-39.

24. Department of the Army, Field Manual 34-80-2/ST, p. 8-1.

25. *Ibid.*, p. 22-23.

26. Department of the Army, "The Interim Division Organizational and Operational Concept," Version 3.7, Fort Monroe, VA: U.S. Army Training and Doctrine Command, June 30, 2000, p. 64. The concept of "reachback" encompasses the capability of the Interim Brigade Combat Team (IBCT) to exploit a multitude of non-organic resources to accomplish its assigned missions. The IBCT executes reach-back on a routine, deliberate basis as a combat power and sustainment multiplier, in five primary areas: fires/effects; intelligence and information; planning and analysis; force protection; and sustainment. Reach-back is based on: advanced command, control, communications, computers, intelligence, surveillance, and reconnaissance, also called C4ISR

systems with the appropriate interfaces with higher headquarters and outside agencies and the appropriate connectivity for distributed operations at range and in urban and complex terrain; a set of tactics, techniques, and procedures, also called TTPs, to govern staff activity; a well-trained staff that understands the capabilities available through reach-back; and how best to employ them for mission requirements.

27. Department of the Army, "The Interim Brigade Combat Team Organizational and Operational Concept," p. 12.

28. The term "internal signals" refers to frequencies and frequency characteristics of radios and radars. Signals intelligence processors can exploit these "internals" and through analysis determine the type of system and/or the unit for exploitation.

29. The term "external signals" refers to plain or encrypted communications. Signals intelligence analysts, using either standard or "black box" collection systems, translate the "externals" for exploitation.

30. Colonel Kevin C. Peterson, "Prophet: Tactical SIGINT for the 21st Century," *Military Intelligence*, No. 26, July-September 2000, pp. 40-42; and Office of the Undersecretary of Defense, Acquisition and Technology, *UAV Annual Report FY 96*, Washington, DC: Director of the Airborne Reconnaissance Office, November 6, 1996, p. 15. Following an October 1995 Joint Requirements Oversight Committee (JROC) recommendation, the Under Secretary of Defense, Acquisition and Technology decided to let the "Hunter" contract expire after delivery of its seven "Low Rate Initial Program" systems. The 15th Military Intelligence Battalion at Fort Hood, Texas, received these "Hunter" unmanned aerial vehicles and in 1999 deployed to Kosovo to support Operation ALLIED FORCE. Originally, the Army wanted to field the "Hunter" system to Corps-level aerial exploitation battalions.

31. Lieutenant Colonel Gus E. Greene, Sr., former action officer, Directorate of Combat Developments, U.S. Army Intelligence Center and School and former commander, 104th Military Intelligence Battalion, interview by author, January 4, 2000.

32. Lynch, pp. 57-60.

33. Department of the Army, "The Interim Division Organizational and Operational Concept," p. 62.

34. Lieutenant Colonel Michael A. Fant, former commander, 15th Military Intelligence Battalion, Aerial Exploitation, interview by author, January 26, 2001.

35. Department of the Army, Field Manual 3-100, pp. 7-40 through 7-42.

36. Colonel Brian Keller, commander, 513th Military Intelligence Brigade, "Theater Intelligence Support," electronic mail message to Stephen Perkins, February 27, 2001. There are two Theater Intelligence Brigades that support the two Major Theater of War (MTW) concept. The 501st Military Intelligence Brigade in Korea supports MTW West. The 513th MI Brigade at Fort Gordon, Georgia supports MTW East. Each has a different force structure and their capabilities support the needs of the Army Service Component Commander and the CINCs.

37. Department of the Army, *Intelligence and Electronic Warfare Operations*, Field Manual 34-1, Washington, DC, 1994, p. 1-4.

38. The author defines the term "sanctuary" as the area, normally out of the theater, where organizations reach-back to access a central information resource. For deploying units, the sanctuary is usually the deployed unit's home facility. Stay-behind personnel usually provide support or contact outside organizations for assistance.

39. The author bases this comment on his personal experience during Operations VIGILANT WARRIOR (1994) and DESERT FOX (1998), and his discussion with members of the 103d Military Intelligence Battalion Analysis and Control Element about their experiences in Bosnia and Kosovo from June 1998 to June 2000.

40. Lieutenant Colonel William J. Tait, Commander, 104th Military Intelligence Battalion, interview by author, December 15, 2000.

41. Brigadier General Richard J Quirk, III, "Training the MI Force for the Future, *Military Intelligence*, No. 26, October-December 2000, p. 30.

42. *Ibid.*

43. Lieutenant Colonel Frederick A. Rudesheim, former observer/controller at the National Training Center and the Battalion Command Training Program, interview by author, January 24, 2001.

44. Major General James M. Dubik, "ICBT [*sic* IBCT] at Fort Lewis," *Military Review*, No. 80, September-October 2000, p. 22.

45. Based on the author's evaluation of the All Services Combat Identification Equipment Tests (ASCIET) in 1999 and 2000 conducted at Fort Stewart, Georgia. The author was the commander of the 103d

Military Intelligence (MI) Battalion; the 103d MI was a participating unit during ASCIET 99 and 00.

46. Major Raul E. Escribano and Major Phillip J. Logan, "Transforming the Army for the Next Century—The Future Is Here Today!" *Military Intelligence*, No. 26, September-December 2000, p. 12.

47. Colonel William A. Carrington and Major Jerry L. Schlabach, "The MI-Signal 'Rock Drill' for the Initial Brigade Combat Team," *Military Review*, No. 26, July-September 2000, p. 18. Author's comment: The new signal systems referred to are the SMART-T and the STAR-T. The acronym "SMART-T" is an abbreviation for "Secure Mobile Anti-jam Reliable Tactical Terminal." The SMART-T is a low cost HMMWV-mounted extremely high frequency (20-40 GHz) satellite terminal, which provides unattended, robust, worldwide, low-probability of detection, jam resistant, multi-channel communications in support of field commander at the division-level and above. The acronym "STAR-T" is an abbreviation for "Super high frequency (SHF) Triband Advanced Range extension Terminal." The STAR-T is a low cost HMMWV-mounted, triband (C, X, Ku) earth station capable of providing quick reaction communications via satellite. The STAR-T replaces the Trojan SPIRIT, which is the "long haul" system in military intelligence organizations at the IBCT and echelons division and above.

48. Lieutenant General Robert W. Noonan, Jr., "The Transformation of Army Intelligence," *Military Intelligence*, No. 26, September-December 2000, p. 9.

49. Dennis Steele, "The ARMY Magazine Hoah Guide to Army Transformation," *Army*, No. 51, February 2001, p. 22. This quote came from an October 1999 speech launching Army Transformation.

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